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COMMON PROBLEMS IN GENERAL PRACTICE.[1]

By G. WINTER ASHTON, M.D., M.S. (Melbourne),
Melbourne.

On receiving the council's invitation to read a paper on common problems in general practice, I was conscious not only of the honour which it had done me, but even more of a feeling that I was very poorly fitted to undertake such a task. I felt that whereas I had been in general practice long enough to appreciate a good number of the problems that arose, I certainly had not reached sufficient seniority in this branch of the profession to hope to be able to offer the requisite solutions to them. I wish, therefore, at the outset, to make it clear that I shall attempt in this paper to bring before you some of the problems as they have presented themselves to me, in the hope that by so doing discussion and even controversy will be aroused, and not to offer solutions.

The first problem that confronts us is: whither general practice? Are we general practitioners, like the Red Indians or the Australian aborigines, the surviving members of a slowly dying race? And, if so, can we do anything to stop the dry rot that is setting in?

I think the answer to both these questions is "yes". Why are we dying? Primarily because we are too complacent. We have been told so long that we are the backbone of the profession that we fail to see we are becoming more like the notochord—vestigial remnants. We are numerically by far the largest proportion of the profession, yet even on our own council we find only twenty-one general prac-

[1] Read at a meeting of the Victorian Branch of the British Medical Association on August 4, 1937.

titioners out of a total of forty members. Of these, some twelve are country members, who find it difficult to attend council meetings; the net result being that it is an almost invariable rule that at all council meetings the general practitioners are in a minority. Hence the tail is wagging the dog, and Collins Street is controlling the interests of the profession. I wish to make it clear at this juncture that I am not in any way decrying the excellent work done voluntarily by members of the council, often at considerable expenditure of time and energy; but I do not see how a council composed as it is at present can truly represent the feelings and interests of the general practitioners, who, on a basis of 1,200 general practitioners to 200 specialists in Victoria, should have a numerical representation of 85% instead of 50%. Well, gentlemen, this is a matter that the ballot paper can rectify.

Again, we are too complacent about the yearly increasing inroads that are being made into our work. Public hospitals, baby health centres, infectious diseases hospitals, tuberculosis bureaux, government medical services in different shapes and guises, and the inroads of specialism are all cutting great slices out of what may be regarded as our rightful sphere, so that if we are not careful we shall soon be left to treat only the old lady with rheumatism and the child with the common cold. Had we a stronger representation on the council, could not more be done to prevent this?

This brings us to our problems in connexion with specialists. We are too apt to regard the words "specialist" and "consultant" as synonymous; but if we give them their individual meanings, it is apparent that Melbourne contains many specialists, but few true consultants, that is, medical men who limit their work entirely to cases referred by other practitioners. Here is the core of the general practitioner's problem. He sends a patient to a specialist, who expresses an opinion, thereby acting as a consultant. The general practitioner's view is "once a consultant, always a consultant", and he cannot see why the specialist is not consistent in his rôle of consultant and does not say: "You must go and see your own doctor first", if at some other time this patient (or one of his family) goes, without his knowledge, to this specialist.

The present attitude of many specialists, of seeing all and sundry, is responsible for much of the diminution of the general practitioner's work and also for the fact that on occasions the appearance of a specialist in a case is regretted instead of his advice being welcomed.

Another habit of some specialists, which is a problem for general practitioners, is that of treating patients already under the care of general practitioners without the courtesy of informing them. It is most galling to be told by a patient's friend: "So-and-So is looking much better for her operation"; and, when one looks surprised, to be asked: "Oh, aren't they patients of yours?" to which one uncomfortably replies: "Well, I thought they were." The courtesy of a note or of a telephone call at least would relieve us of these embarrassing situations.

The after-treatment of patients operated on by a surgeon for a general practitioner presents another problem. The legal position is that the surgeon is responsible for the efficient carrying out of the after-treatment, but, with the patient's permission, may delegate this responsibility to an efficient substitute; that is to say, there is nothing in the legal position to prevent the surgeon from allowing the general practitioner to carry out the after-treatment of the patient. And, provided the surgeon is satisfied of the general practitioner's capability, there can be no moral wrong to the patient, particularly if the patient is informed of the situation beforehand.

As general practitioners we admit that we have no right to demand to carry out the after-treatment, but we do think that in most cases, particularly in those of a more or less routine nature, we should be asked whether we should like to. These are our reasons. First, most of us have been residents in surgical wards after graduating, and we were there taught to carry out the after-treatment of patients. If we were good enough to do this so soon after graduating, for nothing, surely we are more fitted to do it later, with greater experience, for something. Secondly, if we call in a physician as a consultant, he expresses his opinion, outlines his ideas of the course of treatment to be pursued and leaves us to carry it out. Why should we not expect analogous treatment from the surgeon? Thirdly, we cannot afford not to carry out the after-treatment. Even if we are not officially doing so, the patient expects us to see him several times during his convalescence, but naturally objects to paying us for what are nothing more than social calls; therefore we must visit him for nothing. If we do not, we are certain to lose some of the patient's confidence, for nothing shatters this more quickly than a feeling that his doctor has ceased to take an interest in him.

The loss of payment for after-treatment makes a big difference to the general practitioner's income, for surgery is something for which people seem to be prepared (and by prepared I mean both able and willing) to pay more readily than for ordinary medical treatment.

Is it too much to ask surgical specialists to adopt more of a "live and let live" policy, and to offer freely to practitioners who refer patients to them, the conduct of the after-treatment?

Has our medical training anything to answer for? I think so. Our hospital teaching is done entirely by specialists, and the general practitioner has no place on the Faculty of Medicine; so that the work, the needs, the opportunities of the general practitioner are relegated to the background, and the young graduate is turned out with an excellent knowledge of the differential diagnosis of disseminated sclerosis, but with a very imperfect ability to diagnose an ordinary skin rash or to dissect a pair of tonsils; while his early obstetrical cases are nearly always nightmares of apprehension.

To obviate these anomalies, should not more time be given to practical work, both before and immediately after graduation? Probably no graduate should be allowed to commence practice till he has done at least twelve months' post-graduate hospital work, and this should include some time at both a children's and an obstetrical hospital. To obviate the necessity for unduly prolonging the medical course, first year medical subjects could be taken while the student was still at school; and why not representatives of the general practitioner on the Faculty of Medicine?

How is the individual general practitioner to improve his status? This is a problem which has exercised many minds in the past. If we wish to stop the dry rot, we must improve our professional knowledge and enlarge our capacities. It is regarded as proven that no one man can hope to keep abreast of all the advances in all departments of medicine at the present day. The result is that we see more and more men in general practice who tend to specialize in a particular branch of the work which suits their individual tastes and capabilities, but who still retain their general practice. This is in many ways a good thing, as it keeps their outlook from becoming too narrow. In addition, we have many younger men entering the ranks of general practice with several years of post-graduate study behind them, and often with higher degrees. This they do because the ranks of the specialists are already full. They may do it with the idea of future specialization if the opportunity offers, but meanwhile they are adding to the status of general practice.

Another measure that is finding increasing favour is the formation of group clinics in the suburbs, in which individual members of the group practise the various specialist branches. If any member of such a group present tonight would favour us with his problems, I am sure we should find them most interesting.

The next problem is that of hospitals, private and intermediate. More and more people are going to hospital instead of staying at home when they are ill, consequently there has been a large increase in the number of hospitals beds within the last few years. Unfortunately there has been a tendency to group all new hospital facilities within a mile of the city, thereby distinctly lessening their usefulness to the general practitioner, largely because of the extra time taken up in travelling.

Undoubtedly the day of the small suburban hospital is dying fast; but why should we not have a ring of modern, well-equipped hospitals of a workable size (say thirty to forty beds) placed in the suburbs around Melbourne? We cannot do our best work without the best facilities.

In our own eastern suburbs district we are fortunate in having a modern hospital of fifty beds, which has just been opened and which should go far to solve the problem of accommodation in our district. I think that if the other subdivisions moved in this matter similar results would follow; an example is Saint Andrew's Community Hospital at Brighton.

This brings us to the problem of the control of these new hospitals. At present the control appears to be (or is) invested in a lay committee, which may or may not have a medical representation. The internal economy is almost entirely the responsibility of the matron and the sisters. Surely doctors should have a more certain voice in the management of these institutions. Take, for instance, the question of diet. There is one hospital where complaints about the diet are continual, yet nothing is done to improve it. Why? Because there is no proper body to whom the doctors can complain. Individual complaints by individual men are apt to cause unwarranted unpopularity, and also to prove remarkably ineffective.

There is another urgent problem in connexion with these hospitals which needs ventilating, and that is their use as training schools. Admittedly this makes for a reduction in the running cost; but why should our paying patients be nursed by trainees? Cheap nursing is not good nursing. The problem reaches its highest pitch in the case of the midwifery departments, which are also schools for nurses doing their obstetrical training. Under the *Midwives Act* a nurse must be present at and must personally conduct twenty confinements in order to qualify for her certificate. This means that she must either conduct the labour of patients whom we are being paid to attend, or else that she is getting her certificate under false pretences. As far as my experience and inquiries go, this is what happens. On arriving at the confinement, one finds a nurse already gloved and gowned standing "at the site of election", so to speak, and one is greeted by the sister saying: "Oh, doctor, do you mind if nurse takes this case? She only wants two cases for her certificate."

One can, of course, refuse, and conduct the case oneself, or one can let the nurse conduct the case under one's supervision; but the latter course is morally and, I am given to understand, legally wrong. The patient engages the doctor and pays the doctor for the conduct of the confinement, and the doctor has no more right to delegate the work to a nursing trainee than he has the right to let a medical student remove the appendix from one of his patients. It is possible only because the patient is under an anæsthetic; but this should make the doctor's moral responsibility all the greater. From the legal point of view he would be in a sorry plight if anything happened to mother or child and he were sued for negligence by an irate father. What would the Medical Defence Association's attitude be in such a case?

What is the remedy? As an attempt to rectify these and other anomalies we have in the eastern suburbs elected a subcommittee on hospital matters as a body to which complaints may be directed, and which is willing to offer free advice to the management of any hospital on any medical problems connected with its institution.

Another problem that I should like to mention briefly is that of accommodation for the mental patient and the border-line case, and also for the hemiplegic patients, who are at present very inadequately catered for.

With regard to public hospitals, I do not wish to touch on the common problem of the enormous growth in attendances—it is too well known to all of you—but I should like to mention two rather minor points. First comes the difficulty in getting a patient admitted. It must have been a common experience of all of you to ring hospital after hospital, vainly trying to get a bed for some urgently sick patient, till in desperation you were sorely tempted to place him in an ambulance and send him off to the nearest hospital, leaving the authorities there to deal with the problem. Apart from the annoyance caused by having to ring so many different institutions, there is the additional irritation of a long wait at each hospital while the executive officer is found. A friend of mine spent forty-five minutes at the telephone one night, trying to get a bed for a patient. Surely this is a gross waste of valuable time. How much simpler it would be if there was a central bureau which one rang, to be at once informed if, and where, a bed was available. This, I understand, is done in Sydney.

Second comes the position of clinical assistants, most of whom are drawn from the ranks of the general practitioners. To my mind, it is not surprising that some hospitals here have found difficulty lately in getting sufficient numbers; for clinical assistants do a large share of the work in the average out-patient department, but get little or no credit for it. Should not all clinical assistants be paid a small salary? For they are usually drawn from the ranks of younger men commencing in practice.

Another problem is that of the unwanted pregnancy. Every general practitioner is from time to time consulted by women who wish him to help them to have a pregnancy aborted. The younger a man is, and the newer to the district, the more of these requests he is likely to have, on the principle, I presume, of giving him a "try-out". The majority of these are unmarried women who are not in his practice. If he is a law-abiding practitioner and tells them that he can do nothing to help them, the frequency of these consultations diminishes; but he will still be consulted by people who are in his practice about what he can do to help them in their trouble.

It is obvious that there must be a very strong motive needed to transform the natural tenderness of the mother towards her unborn child into destructiveness. This powerful motive is usually, in the unmarried, a desire to conceal the fact of the pregnancy, whilst in the married it usually takes the form of a feared or actual impossibility of providing properly for another child. That is to say, it is a moral fear in the first place, and an economic fear in the second.

Take the case of the unmarried girl who is pregnant. If nothing is done to procure abortion and she goes to full time, another unwanted child is born into the world, who will never have a father's training or a mother's love, who will probably be brought up in a State or charitable institution, and who will be a financial burden to the community for many years. As for the mother, it will take her years to live down the moral stigma; in fact, the whole of her future life may be ruined as the result of one moral lapse.

If we consider the case of the married woman, we usually find either that she cannot afford the upkeep of another child, or else that she has become pregnant too soon after her last childbirth.

The law allows us as practitioners only one reason for procuring an abortion, and that is danger to the mother's life; but no penal code yet devised has been able to eliminate abortion completely, and we all know that many abortions are done in Melbourne.

What is to be our answer when we are asked for help? Are we to be morally and legally correct, and to say: "I am sorry, I can do nothing to help you, you must let Nature take its course", well knowing that the patient's next move will be to go either to the chemist for an abortifacient or to the professional abortionist for an illegal operation? On the other hand, are we to say self-righteously: "Well, I don't do that sort of thing, but if you go to So-and-So, he will fix things up", thus making ourselves an accessory before the fact?

We tend to look down on the professional abortionist, chiefly because we think he is making "easy money" by charging from fifteen to twenty guineas for a simple operation, which should not cost more than five guineas, were it not for the fact of the extra risk involved in breaking the law. Is it right that women should have to pay these grossly enlarged fees and to run the risk of being operated on by unskilled persons?

Are we as a profession satisfied with the present position, which makes criminals of many women and corpses of a few; which allows a number of quacks and charlatans to earn a lucrative livelihood by law-breaking; and which, from our own point of view, places a very strong temptation before us in the early days of our practice, and in later years puts us too often in the invidious position of wanting to help and of being in a position to help, but having to say: "No, I cannot, my hands are tied."

Other problems are connected with lodge practice. In my practice I have only two or three hundred lodge patients, so I do not feel that my problems can be anything like those of general practitioners whose lists run into four figures; but I should like to indicate the problems as they have presented themselves to me, well knowing there must be many others.

One of the underlying difficulties of lodge practice is the triviality of so much of the work. One cannot help feeling that, at least from the doctor's point

of view, it is a mistake to allow an unlimited number of visits for a set fee *per annum*. Lodge work is a form of insurance for the lodge member, but no insurance company would be so unbusinesslike as to give unlimited "cover" for a set premium. There should be some limitation of the work required from the doctor, or else a small fee should be charged for each visit over and above a certain number. Things which are got for nothing are not usually appreciated, and the present arrangement leads to imposition on the doctor, and, what is more important, it tends to breed in him a feeling that all lodge patients are not really ill. This induces in him a tendency to be rather lax in his examination of the patient, and in consequence a feeling of lack of trust in the doctor's advice is induced in the patient. We have all had experience of the patient who sits down and says: "Oh, yes, I have had advice from Dr. So-and-So, but he is only my lodge doctor." Is the remedy for this to make it just a little harder for the patient to consult the lodge doctor, and thereby to make the visit more appreciated?

One of the most trivial of our duties is the repeating of mixtures in the dispensary books. In our district the dispensaries will not repeat even once without the doctor's signature, which makes a lot of unnecessary work.

The lodge agreement lays down an income limit, but leaves it as the doctor's responsibility to have a patient removed if he is over that limit. Should this not be the secretary's responsibility? A probable way out would be to require all patients joining a lodge to sign a statement that their income is under the limit, and to promise at once to cease from accepting medical benefits if their income rises above the limit in the future. The questioning of the patient about his financial position by the doctor is apt to be very embarrassing to both parties concerned, and if one doctor refuses the patient because he is over the limit, there is nothing to stop that patient from joining the list of another doctor who is not quite so particular. After all, we sign the medical certificates of joining members primarily as a protection for the lodge's sickness benefit fund, and we should be entitled to written proof, before undertaking such an examination, that the prospective member is a *bona fide* case from the financial standpoint.

In the eastern suburban area it is very noticeable that there are many people who have joined a lodge in their early days, have subsequently "made good" financially and moved out to what might be called a better residential locality, but who still remain on the lodge. Any of us could take you to twenty people who live in better houses than we do, who drive better motor cars than we do, and whose general standard of living is well over £1,000 a year, who yet expect us to look after them and their families for a paltry £1 a year. Naturally we resent it, but there seems to be nothing to do but grin and bear it.

The biggest problem in connexion with lodge secretaries is the number of mistakes made, both in the compilation of lodge lists and in the quarterly cheques. One may compare lodge secretaries with certain forms of heart block, and describe them as being "regularly irregular" in both matters. Some secretaries are very good, others are very bad; but the mistakes made are almost always to the doctor's detriment. As an example, several years ago I commenced to make a careful check of my lists and found that there were between twenty and thirty members whom I had been attending, or else who had thought themselves to be on my list, whose names did not appear thereon. This meant that I was being defrauded of £20 to £30 a year. I now keep a more accurate check on my lists by means of a book like a roll, on which the names are ticked off each quarter as the lists come in; although it means a little extra work, it pays. It would be interesting to know if all lodge doctors find they are being constantly underpaid, for, if they are, the total amount *per annum* would be large.

The inaccuracy and late arrival of lists is a constant, if minor, annoyance. This is sometimes due to members being late in payment of their dues; but one does not always find that when the member does pay his name is added to the list. Frequently a patient's name is left off at the beginning of a quarter only because he is unfinancial, not because he has transferred his affections or left the district. It would seem advisable that the secretary be required to furnish a brief reason for the patient's name not being on the list—such as "transferred", "left district", or "unfinancial". Would not a central bureau for the compilation of lists and the drawing of cheques be preferable to the present haphazard arrangement?

One cannot leave the subject of problems connected with lodge practice without mentioning the most important one, that is, the fact that it is at present a breach of contract for lodge doctors to receive payment for carrying out after-treatment following an operation performed by another surgeon. Many hold the opinion that this is one of the root causes of fee-splitting; and until this most unreasonable clause in the agreement is reworded to our satisfaction, the Council of the British Medical Association and other bodies interested in the question of fee-splitting cannot hope for the active cooperation of general practitioners in stamping out the practice. At present we feel that they are attempting to put the cart before the horse. At the same time, should not the clause relating to confinements *et cetera* be altered? It is quite unfair to expect a doctor to carry out all, or some, of the antenatal treatment for nothing, as he must do at present if the woman elects to go elsewhere for her actual confinement.

Possibly the council's interpretation of these two clauses obeys the letter of the present agreement, but it does not obey the spirit, which seems to mean that operations (including treatment necessary to get the patient better) and confinements (including

the necessary antenatal and postnatal care) are excluded from what we contract to do for people for the sum of £1 *per annum*.

Finally, is it logical to expect us to look after a single man and a married man with, say, four children, for the same sum? Should not a married man be prepared to pay something for the medical care of his wife and children? I have had two or three examples where a male member married a female member of one of my lodges. Before their marriage I was being paid £1 for the man and 12s. for the woman, that is, 32s. a year; after their marriage I still had to look after them both, but was being paid only £1 per year. In this respect we may consider the example of South Africa, where a married man pays *per annum* 18s. for himself, 12s. for his wife, and 9s. for each child under sixteen years of age.

The fact that we must treat fractures and dislocations sustained by lodge patients without extra payment is another problem, but unfortunately we (or our predecessors) were directly responsible for this.

In spite of my preceding remarks, I believe that, in many ways, the present lodge agreement is rather a wonderful legal document. For twenty years it has carried out reasonably well its object of controlling the relationship between doctor and patient, with all its infinite possibilities of variation. Surely this is a triumph! But I hope that sufficient has been said to show that the time has come for revision of the agreement; and would it not be wise if revision were carried out at regular (say five-yearly) intervals? If we cannot come to a satisfactory arrangement with the lodges, why should we not abandon them altogether and run our own scheme in our own way, since medical benefits are the biggest selling point of the lodges?

Finally, I should like briefly to enumerate other problems that present themselves. Take the question of fees. Are our fees too high? The Inspector of Charities, Mr. McVilly, in a recent number of *The Hospital Magazine*, says that they are, and that they are a prime cause of the drift to the public hospitals. In the same journal a correspondent raises the question of why medical men are more highly paid, on the average, than men in other professions. Is this right? Are we justified in charging one fee for the rich and another for the poor? In this connexion it is interesting to read the words from the Hammurabi code in the third millennium B.C.:

> If a doctor has treated a gentleman for a severe wound with a bronze lancet and has cured the man, or has opened an abscess of the eye of the gentleman with a bronze lancet and has cured the eye of the gentleman, he shall take ten shekels of silver. For a poor man five shekels of silver. If he be a gentleman's servant the master of the servant shall give two shekels to the doctor.

How do we assess our fees? By work done or by the patient's ability to pay? And what methods should we adopt to collect our overdue accounts? It has been estimated that the total "bad debts" owing to the profession in Victoria are in the neighbourhood of a quarter of a million pounds. The collection of even half this sum would go far to endow our medical school or a medical club.

What are the country general practitioner's problems? A friend of mine said that the biggest is isolation, that is, being cut off from his kind and having nobody with whom he can discuss things. This is true also of suburban practice, though perhaps to a lesser degree. Would not the whole profession benefit by more informal discussion than is at present possible? Can we not do something to provide suitable accommodation so that medical men may gather together for an informal chat in a social way?

Should we not go further than this and ask the council to discuss the formation of a medical club? It would give us a place where we could "drop in" to spend a spare hour, with the certainty of finding there someone whom we knew; it would give us a place to which we might invite country and interstate friends, to give them the opportunity of meeting other members of the profession; and it would be a Mecca for interstate and overseas medical visitors who did not know men in this city. Finally, it would tend to break down the barriers which exist today, and enable the younger men in the profession to get away from the "hospital attitude" to the hospital "honoraries", and to meet them on an equality as fellow members.

In conclusion, may I say that the fact that the council has asked three of us to bring our problems before you for discussion is an earnest of the fact that it is aware that there are problems which need ventilation. May I ask you to take advantage of this opportunity to present your own problems and to voice your opinions on any or all of those which I have very imperfectly indicated.

SYDENHAM'S CHOREA: ITS COURSE AND RELATIONSHIP TO RHEUMATIC FEVER.[1]

By Stanley Williams, M.D.,
Melbourne.

History of Chorea.

Modestus Vitus[1] was the son of a Sicilian emperor, and lived during the fifth century. He was martyred in Rome. As early as the fifteenth century Saint Vitus was appealed to above all saints against epilepsy. We read[2] of the "Dancing Mania" in Strasburg in 1418, when an epidemic of chorea, which was probably the result of physical degeneracy *plus* fanatical religious enthusiasm, brought large numbers of dancing patients to the chapel of Saint Vitus in Zabern. It is not suggested that Vitus himself was a sufferer from the "dancing disease". The festival day for Saint Vitus is June 15.

[1] Read at a meeting of the Melbourne Paediatric Society on May 31, 1937.

The first description by Sydenham[3] of "St. Vitus's dance" gives a clear picture of the disease as it occurs today.

> This is a kind of convulsion, which attacks boys and girls from the tenth year to the time of puberty. It first shows itself by limping or unsteadiness in one of the legs, which the patient drags. The hand cannot be steady for a moment. It passes from one position to another by a convulsive movement, however much the patient may strive to the contrary. Before he can raise a cup to his lips he makes as many gesticulations as a mountebank; since he does not move it in a straight line, but has his hand drawn aside by spasms until by some good fortune he brings it at last to his mouth. He then gulps it off at once, so suddenly and so greedily as to look as if he were trying to amuse the lookers-on.

Sydenham's treatment was to bleed from one arm as much as eight ounces, and on alternate days to purge with a potion of: black cherry water, one ounce; *Aqua Epileptica Langii*, three drachms; Venice treacle, one drachm; liquid laudanum, seven minims; also to apply a plaster to the sole of the foot.

The course of the disease was well known, for it was advised that to guard against a relapse the patient should be bled and purged for a few days in the next year.

The movements of chorea appear to reach their maximum about the third week, and when the disease is at its height the child has an excited expression with dilated pupils, and constantly grimaces, turns and twitches. These movements of the limbs may produce severe rubbing of the skin, and one of our patients had large bed sores over the greater trochanter before arriving at hospital.

Distribution between the Sexes.

Chorea is commoner in girls, occurring in 56% of our cases. Chorea, in our opinion, is commoner in boys in Melbourne than many other investigators believe.

Relationship to Rheumatic Fever.

The chief reason for this investigation was to estimate the association between rheumatic fever and chorea, in order that more light may be thrown on the most adequate methods of treating the latter disease.

A survey of the voluminous literature on the subject leaves one in doubt as to what to expect in Australia. The English authorities emphasize that chorea is a manifestation of rheumatic fever. L. Findlay, in his valuable book, "The Rheumatic Infection in Childhood", agrees with J. Thompson,[4] who says: "It is wise that all children with chorea should be treated as rheumatic subjects." Similarly, if the many predisposing factors are considered, the figures for Great Ormond Street Hospital for Sick Children indicate that chorea is a form of rheumatism.

On the other hand, and more recently, we have an American viewpoint put forward by Alvin F. Coburn,[5] who, after an investigation of 114 patients with chorea, stated that:

> In New York City, 75% of all chorea is independent of rheumatic fever, but the pre-requisite background for chorea can be many abnormal conditions, one of which is rheumatic fever. However, the factor that initiates the attack of chorea can be independent of rheumatic activity.

T. D. Jones and E. E. Bland,[6] in a very exhaustive investigation of 482 patients with chorea, state that chorea is considered to be a mild manifestation of rheumatic fever, and one not in itself conducive to the development of rheumatic heart disease.

The problem of chorea is a very definite one in Melbourne. We shall have to draw conclusions from our own material.

Analysis of Data from the Children's Hospital, Melbourne.

During the years 1932 to 1936, 142 children were treated for Sydenham's chorea. A statistical survey of these children has already been presented by Dr. H. Boyd Graham. Certain clinical problems have been investigated, however, and I shall discuss those of a more controversial nature.

Temperature.

The temperature is frequently normal in uncomplicated chorea, that being so in 62% of our cases. On the other hand, 17% of patients had a daily temperature of 37·25° C. (99° F.) and 21% that of 37·8° C. (100° F.) or over.

I have heard it said that the diurnal variation of temperature in chorea is unusual, and that has been confirmed in 15% of our patients, who showed a difference of 1·0° to 1·5° F. between the morning and evening temperature (see Figure I). It would appear from many of the temperature recordings that the patient with chorea is suffering from an infection or toxæmia.

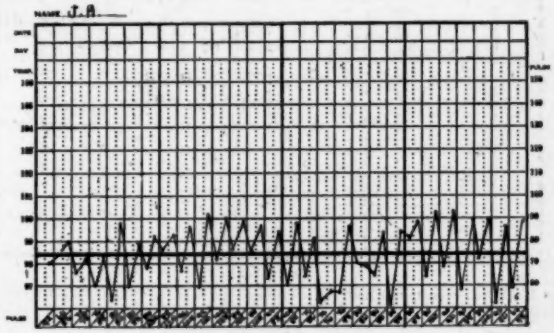

Figure I.
Chart showing the diurnal variation of temperature present in a number of cases.

Blood Sedimentation Rate.

Studied in a small series of chorea patients, the curve of the blood sedimentation rate was normal. A. F. Coburn[5] and other writers mention this fact in favour of dissociating at least 50% of the cases of chorea from acute rheumatism (see Figure II).

Those who have had the opportunity to observe a large number of children's hospital patients will have seen many children with acute rheumatic fever directly associated with chorea. I have taken as

evidence of rheumatic fever a history of "growing pains" and arthritis of the typical "rheumatic" type, and of the presence of subcutaneous nodules. Twenty-seven patients gave evidence of these signs and symptoms (excluding heart disease, which will be considered later), sixteen of whom had had rheumatic fever before the chorea, whilst eight contracted chorea concomitantly with the rheumatic fever. Only three contracted rheumatic fever subsequent to the chorea. I assume that there is some predisposition to chorea in the patient who has had rheumatic fever. It is indeed fortunate for the patients that chorea and arthritis are seldom present synchronously in the same limb, a fact which may be explained by the reflex spasm of a muscle which is acting over an inflamed joint.

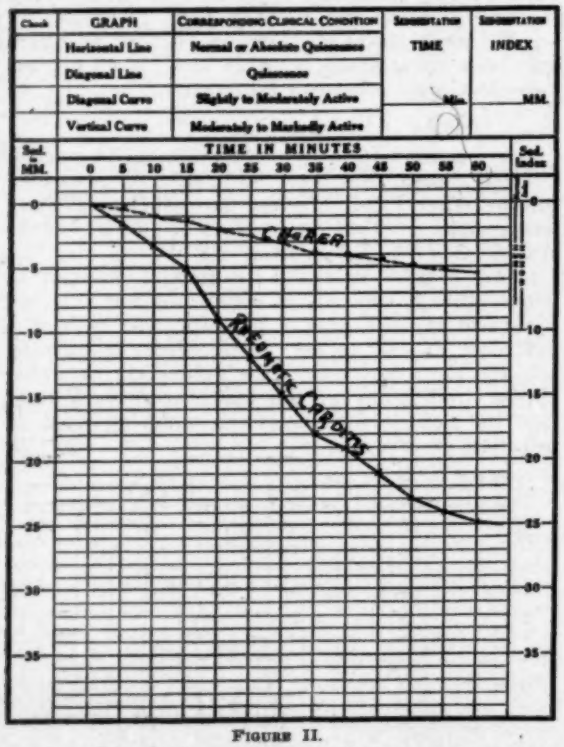

Figure II.

Chart of sedimentation rate showing the normal curve for a chorea patient and an active curve for a child with rheumatic carditis.

Chorea as the Single Disease.

An examination of the notes of 101 children, made at the time of the onset of chorea, and in certain instances when the patient attended the out-patient department, in addition to notes of children seen quite recently, indicates that 101 patients of the 142 studied showed no evidence of rheumatic fever. In the remainder, 41 in all, chorea was associated with rheumatic fever and/or rheumatic heart disease.

A more accurate picture is obtained, however, by confining one's conclusions to the results of the examination of 66 patients who responded to the request to attend hospital for observation.

The Follow-Up Examination.

The average period between the onset of chorea and the time of examination was two years, the longest time after the onset being five years, and the shortest time six months. I have separated these patients into two groups: those with cardiac lesions and those with only the nervous manifestations of chorea.

Chorea and Rheumatic Heart Disease.

Chorea accompanied by rheumatic heart disease has occurred in 19 children (26%), and the diagnosis was by physical examination only; at the onset of chorea 13 (25%) had evidence of heart disease, which persisted, becoming detectable at the subsequent examination. The chief signs were a systolic and diastolic murmur, with evidence of mitral stenosis in two instances.

An important group is that of the six children (11%) who gave no evidence of heart disease during the acute stage of the chorea, but were found to have unmistakable signs, and in three cases mild symptoms of heart disease. Two of these patients had mitral stenosis. We can suggest, therefore, that 26% of children who have chorea will subsequently have some damage to the heart, and in a certain number there will be no evidence of this during the course of the disease.

Unless the patient is under close observation, however, we cannot say that the heart lesion is secondary to chorea alone, for the child may suffer an attack of rheumatic fever which passes unnoticed by the parents.

One realizes the difficulty of diagnosing heart disease, and for an adequate examination radiography and electrocardiography may be necessary. A systolic murmur does not *per se* mean heart disease, and an examination of these children from that point of view is worthy of note.

Thirty-four patients (some of whom are included in the above series) had a systolic murmur at the mitral area when the heart was examined during the course of the chorea in hospital; in only 15 children did this persist, whilst in 19 patients seen subsequent to the attack of chorea there was no evidence of the systolic murmur. It is, of course, well known that the murmurs can disappear, and such has been the case here.

Chorea Not Associated with Other Manifestations of Rheumatic Fever.

Forty-one (65%) of our patients suffered from chorea not associated with other manifestations of rheumatic fever, and I have considered them as manifesting the nervous type of chorea only. Some differ only slightly from those patients with chorea already considered, being the usual "highly-strung", excitable, nervous, bright, intelligent, active-minded children frequently found among chorea patients. Psychical disturbances are common; irritability, marked wilfulness and emotional outbursts may indicate a complete change in the character; deficiency in the power of concentration is often

remarked on by parents. The attacks of chorea in this class of children recur, and more than half the number observed had more than one attack.

Do these children differ very much from those with cardiac lesions and an association of rheumatic fever? An analysis of certain features would suggest that "no" is the correct answer to that question. For example, the number of recurrences of chorea is much the same in both types, the figures being as follows: of 25 children with rheumatic fever and heart disease, 19 had more than one attack; of these seven had two attacks and two had three attacks or exacerbations.

Much in the same way that it is suggested that in rheumatic fever exacerbations rather than reinfections occur, so it is with chorea; the "attacks" appear to be exacerbations of the existing condition. We have found one instance of three children in one family being affected with chorea with rheumatic signs.

The details of the figures for the non-rheumatic group are: 22 of the 41 had more than one "attack", eight of them having two attacks, two having three attacks, and one having four attacks.

Table I.

Showing Exacerbation of Chorea.

Number of Attacks.	Nervous Type (41 patients).		Rheumatic Type (25 patients).	
	Number.	Percentage.	Number.	Percentage.
1	19	48	6	24
2	11	26	10	40
3	8	20	7	28
4	2	4	2	8
5	1	2		

The number of attacks of chorea did not predispose to cardiac complications, many of those in the two- and three-attack groups having no cardiac lesion. It is possible that many children are included in this "nervous group" who are different from those in the "rheumatic group", for they may have lesions in the same areas of the brain as those that are affected in true chorea. Amongst those examined in this investigation was a child with congenital syphilis, and another who had had cerebro-spinal meningitis; both furnished examples of "typical chorea". We can postulate that a virus of encephalitis could produce the same picture. Findlay, however, has found that in children with Sydenham's chorea the cerebro-spinal fluid is normal on examination.

Discussion.

The causative nervous change in Sydenham's chorea can occur along with a rheumatic infection of the heart or joints, but also in many cases it can apparently affect the nervous system only. It is impossible to distinguish at any stage of the chorea which children will have manifestations of rheumatic infection. The only test of suggestive value is examination of the blood sedimentation rate, and until our knowledge of the ætiology of rheumatic fever and chorea is increased it would appear rational to regard Sydenham's chorea as a type of rheumatic infection.

Summary.

1. A brief review is given of the literature dealing with the association between rheumatic fever and Sydenham's chorea.

2. The results of a follow-up examination of 66 children with chorea, who had been in-patients at the Children's Hospital, Melbourne, during the years 1932 to 1936, are given.

3. Of patients with chorea, 26% contracted heart disease.

4. Indistinguishable attacks of chorea occurred in 65% of patients without the development of heart disease within three years.

5. Exacerbations and remissions of the choreiform movements are common.

6. Sydenham's chorea, in most instances, is a form of rheumatic fever.

Appreciation.

I wish to thank the members of the honorary medical staff of the Children's Hospital, Melbourne, for permission to review these chorea patients, and also the members of the resident medical staff for their assistance.

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DOCTORS AND THE LAW.[1]

By D. Murray Morton, M.D.,

President of the Medical Defence Association of Victoria.

In September, 1930, I took to the then editor of *The Argus* the manuscript of an article entitled "Doctors and the Law". The editor expressed the opinion that the article was opportune; he accepted it, and it was published over my initials on September 27, a Saturday's issue. On the following Saturday I was honoured by the publication of two letters in reply to my article, one signed "Solicitor", with whom I have since sat quite amicably at one of the annual dinners of this society, when we identified each other; and another signed "Chancery Lane", and therefore presumably from a barrister, both, of course, controverting some of my state-

[1] An address delivered before the Medico-Legal Society of Victoria on September 13, 1936.

ments. To portions of these letters I shall refer later. On the following Saturday I was allowed space for a letter in reply to "Chancery Lane" and "Solicitor", and the newspaper controversy ended.

The subject, of course, was the airing of certain grave disabilities of medical practitioners under the law as it exists and also as it is practised.

I had flattered myself that this article and the ensuing correspondence had had something to do with the genesis of this society; and in that belief, when the last annual meeting approached, I thought that after the lapse of five years a reconsideration of the subject before this society would be opportune. A conversation with my friend Dr. Mark Gardner has enlightened me that he is the actual father of this promising offspring of the two professions; but I still have a lingering thought that, by having put the subject on the air, so to speak, I had at least some small share in preparing the marriage bed.

When I volunteered this paper it was also part of my belief that the Medico-Legal Society had amongst its aims and objects the cultivation of good fellowship between the two professions and of a better understanding of their respective difficulties. I therefore suggested a review as to how far five years' association in this society has carried us towards this ideal. In this belief it seems that I was again mistaken. In the foreword to the first volume of the published "Transactions" of this society, its object is set out as "the discharge of service to the community more intelligently and efficiently for the public good".

However, the committee has been good enough to accept my paper, and I hope it will not diverge too far from this noble object.

The main burden of my article of 1930 was that claims at law for damages against members of the medical profession were painfully frequent and outrageously high; that the doctor, by nature of his calling, was peculiarly open to such claims by dissatisfied patients, and that at that epoch, generally speaking, the medical profession was receiving a "raw deal" at the hands of the sister legal profession. I have come here tonight to reiterate those statements and to state that during the past five years the position is no better and is probably worse. In addition to numerous lesser claims over that period, two claims of five thousand pounds each have been made during the current year.

Why are these enormous damages claimed in actions against medical men? Is there a general belief that every medical man is wealthy, even the struggling general practitioner (and it is usually against such a doctor that the claim is made); or is there a belief that there is an enormous fund at the back of every medical man, from which a disgruntled patient—with the assistance, of course, of legal practitioners—can draw enough money not only to compensate him for his loss of earnings and for the cost of his illness, but also to endow him with an income for the rest of his life?

Five thousand pounds! The average practitioner is a fortunate man indeed if he can accumulate such an amount as a provision for his old age after a lifetime of hard work.

To any struggling professional man a serious illness is a misfortune. To the medical practitioner there is an evil infinitely greater than this, the nightmare of an action for damages by a disgruntled patient. In an illness recovery can be hoped for at the expense of a temporary loss of income; an action for damages (even if successfully defended) may mean financial ruin, for we must not forget that "Damages" has a big brother named "Costs".

One class of case is now particularly dreaded by the general practitioner—bodily injuries, which, with the growth of fast traffic, as you know, are on the increase. Can you wonder that, if the doctor is fortunate enough to see such a patient entering his front gate, he seizes his hat and escapes by the back? How many of my listeners who are at the Bar would be willing for a prospective fee of five or ten or twenty guineas (prospective, I said—which rather interferes with the analogy) to undertake the conduct of a case in court at the risk of being sued for five thousand pounds in the event of non-success?

The medical man often has no option. In a suburb of Melbourne a doctor is established near a dangerous intersection, and is frequently called upon to attend victims of motor accidents; and just as frequently receives no payment whatever for much unpleasant work, mess in his surgery and cost of his materials. One evening an excited crowd carried in two bleeding youths who had collided on their motor-cycles. The doctor, being tired as well as fed up with these unremunerative cases, inquired who was going to pay his fees. He was curtly ordered by the mob to get on with his job or otherwise they would wreck his house. He got on with the job. I understand that should one of these youths have been dissatisfied with the result of the treatment, the circumstances of the doctor's introduction to the case would be quite irrelevant to the defence.

In some cases he may be the only doctor in a remote district, when he is faced with the alternatives of either sending a severely injured person on a long and dangerous journey or doing his best in the circumstances. If the patient should be dissatisfied with the result, no matter how self-denying and diligent the doctor may have been in his attendance, he need expect no mercy. He may be considerate to the last degree in fixing the charges for his services, but when an aggrieved patient opens his mouth into the legal amplifier, he talks in thousands.

What is the usual sequence of events? A person incurs an injury (whether due to his own carelessness or not is irrelevant—one claim was made by a man who fell off his own haystack), he has a long period of disability, he has hospital, nursing and medical expenses (the latter usually unpaid) and is perhaps left with a permanent disability. He is

not insured, and, naturally feeling that his misfortunes are undeserved, he looks round for some means of compensation. The only person within sight is the unfortunate doctor who has attended him. He cherishes his grievance, he discusses it with his friends; finally one suggests a solicitor. He consults a solicitor and says he wants that doctor's blood. "Sue him for five hundred pounds", says the client. "Make it five thousand", says the solicitor, "and we shall have a jury." If the doctor does not submit to a more or less blackmailing settlement of the action in order to save time and publicity (and it is remarkable the readiness of the plaintiff to come down rapidly from five thousand to two or three hundred pounds in these circumstances) the process starts. After days of argument on abstruse points the members of the jury get weary and fed up. They are convinced in their own minds that it is not that worried, overworked doctor who is the actual defendant, but some wealthy corporation. They are bewildered by the scientific evidence; they say: "Well, look at the poor blighter crawling about like that for the rest of his life; we'll split the difference and give him two thousand five hundred pounds." And they do. Costs, probably at least another thousand pounds, result—a sentence on the doctor of penal servitude for life.

Yes, gentlemen, penal servitude, certainly not within four walls, but nevertheless a life sentence—the severest sentence for a crime short of the death sentence. What I mean by penal servitude may be illustrated by the story of a hard-worked lodge doctor who reached home very late after a long and anxious midwifery case on a wet, freezing night. He had just fallen into the sleep of exhaustion when he was awakened by his telephone and called to see the child of a lodge patient who had met with an accident. It was only a few blocks away, but out again had to come his old "tin Lizzie". On arrival at the house, the doctor found that the injury was trivial, and mildly asked why, instead of dragging him out of bed, the child had not been brought to his surgery. "What", cried the indignant father, "take my child out on a night like this! Why, I wouldn't take my dog out!"

That is what I mean by penal servitude. Gone are all the doctor's ambitions to educate himself for a specialty and escape such drudgery; gone are his and his wife's hopes for a higher education for their children; their home paid for by much self-denial is now mortgaged; he spends his life in servitude to another man. And all this for what, if there be any fault at all, is rarely worse than an error of judgement. Remember the doctor is called upon to deal with a situation not of his own creating, and he does his best. When his treatment comes under criticism in court, counsel for the plaintiff makes every effort to prove him at fault if his methods fall short of those of the most skilled specialists. Admit the element of human error, shared by even our legal colleagues; so why should such severe punishment fall solely on a medical practitioner?

As a means of obtaining a standard, the only one available, let me quote some of the larger items from the schedule of the *Workers' Compensation Act*, 1935.

For total loss of the sight of both eyes ..	£750
For loss of both hands	£750
For loss of both feet	£750
For loss of a hand and a foot	£750
For total and incurable paralysis of the limbs or of mental powers	£750
For total loss of the right arm or of the greater part of the arm	£600
For total loss of the left arm or the greater part of the arm	£562
For total loss of a leg	£562
For total loss of a foot or the lower part of the leg	£450
On death, if the worker leaves dependants, a maximum of	£750

Under the Victorian *Railways Act* two thousand pounds is the maximum amount that can be recovered for damages, including loss of life.

Now let me quote some claims made against medical men in this State during recent years.

For alleged maltreatment of a broken arm	£2,000
For alleged maltreatment of a broken arm	£5,000
For alleged unauthorized operation	£1,000
For not removing a tension stitch after operation	£500
For alleged unskilful treatment	£1,000
For X ray burns of both forearms	£10,000
For alleged overdosage of a hypnotic drug	£3,000
For rash following anti-syphilitic injections	£3,000
For alleged wrongly signing lunacy certificate	£3,000
For alleged maltreatment of a fractured thigh	£5,000
For ulceration following hæmorrhoid injection treatment	£5,000
For allegedly leaving in a pack at operation	£2,400
For an X ray burn	£2,000

This is not a complete list, but it already totals over £40,000. Surely here is abundant evidence of the commercialization of grievances against medical men. Damages are inflated to the point of dishonesty, and some of the claims are so disproportionate to the grievances that they are obviously blackmail. We find it impossible to believe that all these extravagant figures originated in the minds of the claimants. We agree that it is the plain duty of a solicitor to fire these missiles for his clients, but it is surely not a part of his duty as a member of an honourable profession to violate the rules of civilized warfare and convert them into expanding bullets.

It is much less costly to inflict grave injury and even loss of life than to attempt its remedy. Recently a medical man was sued for damages as having been legally responsible when a friend was killed in a smash while a passenger in the doctor's motor car. And for how much? A modest twelve hundred and fifty pounds.

Some of you may have been thinking that I have been talking with my tongue in my cheek, for is there not an association called the Medical Defence Association? There is, and I might mention that in the minds of some of the younger members of

the medical profession it is confused with the Medico-Legal Society; and there is an idea that if any member is attacked, all the members of the Medico-Legal Society spring to his rescue as one man! As they get older they will find there is a difference.

This is not an annual meeting of the Medical Defence Association, and it is not necessary for me to lay its report and balance sheet before you; as a matter of fact, it has recently appeared in court and was produced by hostile counsel. Suffice it to say that this association until five years ago was run on a subscription that was half of that paid to this purely social society; and for the past five years on a subscription just double your subscription. It gives to its members a limited and qualified protection—limited by the necessarily small accumulated funds, and qualified because the degree of assistance, if any, is determined by the council of the association on the merits of the case. In the State of Victoria, as ascertained from the Secretary of the Medical Board, there are approximately 1,800 registered practitioners, of whom only 740 are members of the Medical Defence Association.

But, you may think, there is the British Medical Association, which has been described as "the strongest trades union in the world". To begin with, the British Medical Association is a purely voluntary association primarily for the advance and diffusion of medical knowledge to the benefit of the community at large, and secondarily for the conservation and advancement of the ethical, social and political standing of the profession. Through this charge of trades unionism, the popular prejudice against the medical profession as a body, which undoubtedly exists, is increased, because people of anti-labour feelings dislike trades unions, and people of true labour tendencies dislike it because they know that, not coming under their banner, it is not really a trades union at all.

A few years ago a doctor was sued for ten thousand pounds damages for negligence. A colleague of mine was informed by a patient who was on the jury, that in the jury room a juror said: "Let us give him five thousand pounds, the B.M.A. will pay it!" And they gave him five thousand pounds, but the B.M.A. did not pay it.

The British Medical Association has nothing whatever to do with medical defence. So I hope that my legal hearers will realize that I have not been misleading them when treating this as a problem between an individual dissatisfied patient and an individual doctor; and I hope that this knowledge will be diffused amongst the legal profession.

Apart from damages, the cost of even a successfully defended action verges on the ruinous to a medical man. It is but a slight over-emphasis for me to state that, within living memory, in no successfully defended case has a doctor ever recovered even a fraction of his costs. This is a cause of bewilderment to the medical profession. Actions are initiated in the Supreme Court, expensive counsel are retained, the trial drags on, and when the plaintiff fails he is found to be penniless. In a successfuly defended action a few years ago the cost to the victorious doctor was over £1,000. The plaintiff was a minor, who sued through her father, who depended for his living on his wife's earnings as a charwoman. Consequently the unlucky doctor did not receive a penny towards his costs.

How are such cases financed? They certainly have a bad smell to the possibly over-trained senses of the medical profession; but no legal friend of mine can detect any odour, because everything is done in strict accordance with legal procedure.

In the concluding paragraph of my article in 1930 I wrote:

> It is difficult to see how and whence any redress can be obtained from these serious and unfair disabilities from which the medical profession is so acutely suffering; but surely some preliminary investigation into the financial position of the plaintiff might be made and reasonable explanation of the financing of the action demanded by some superior legal authority.

Of course no relief has been given, and before I conclude I think the reason will be plain to all. Added knowledge acquired during six years, much of it from the proceedings of this society, has caused me to be so presumptuous as to advance from my position of despairing criticism in 1930 to one of constructive criticism in 1936. Above all, I have made the acquaintance of the "Rules of the Supreme Court of the State of Victoria" and have found it a very interesting publication.

For the benefit of the less-informed medical members of my audience I might explain that lawyers do not make the laws (so many of which we find irksome); we have been told so in this society over and over again. The legislature makes the laws. In other words, Parliament specifies the diseases of the social body; the legal profession is entrusted with the treatment of these diseases, and the technique of treatment is prescribed by the rules of the Supreme Court, now, unhappily, twenty years old! Can my medical hearers imagine the horrible impression on a court of a medical witness admitting that his technique was twenty years old when the painful admission was extracted by counsel practising a technique of the same vintage?

The rules of the Supreme Court which guide legal procedure at the present day are dated 1916 and bear at their end the honoured names of John Madden, Thomas a'Beckett, Henry Hodges, J. H. Hood and Leo. F. Cussen—all long since gathered to their fathers.

In May, 1932, we listened to a delightful address by Mr. Justice C. Gavan Duffy on "The Doctor in the Witness Box", in the course of which he thus pleasantly chaffed the medical section of this society.

> Now there is nothing conservative about your profession. That great medical writer, Professor Leacock, of Canada, has told us an astonishing story of the forward-looking aspect of your profession, the splendid way that it advances. He says that it is only a hundred years ago since the doctors believed that they could cure a man of

fever by blood-letting. Now they know they can't. It is only seventy years ago since they believed that they could cure a fever by sedative drugs. Now there is not a doctor that does not know that is not so. It is only thirty years ago that they believed that they could cure a fever by ice bandages; today they know that is not so.

It is exactly the same with regard to rheumatism. Only a few generations ago the doctor used to tell the patient to go around with potatoes in his pocket. No doctor tells him to do that now—he allows him to go round with anything he likes in his pockets except his fee—with water-melons, if he so desires.

A perusal of the rules of the Supreme Court of Victoria will convince any unprejudiced reader that the legal profession of this State is still in the stage of wearing a potato in its trousers pocket. Might we suggest that it is time to throw away the potato and awake to the fact that legal therapeutics are due for a move forward?

Bear in mind that these rules are made by the legal profession itself. Our legal colleagues cannot sidestep for shelter behind the legislature and plead helplessness in this instance. Does the legal profession make any claims to progress, or is its conservatism still its greatest pride? Can anyone be unaware that conditions have changed within the past twenty years, which have seen *Workers' Compensation Acts*, the almost universal spread of insurance, the development of fast motor traffic and of machinery, and the consequent increase of physical injuries and litigation arising therefrom?

Is there any jury nowadays which does not believe that an insurance company is in the background of any action for bodily damage, and which is not prejudiced from the outset by its sympathy for an injured person? I am told by some of my legal friends that some of the best legal minds are of opinion that on the whole better justice is obtained by a jury with a judge than by a judge sitting alone. This opinion is not shared by members of the medical profession of medico-legal experience for this class of case, nor apparently by some jurists. Mr. Justice C. Gavan Duffy, in his address already quoted, said also:

> The next thing we might consider is, supposing the present system is not all it ought to be, what practical alterations are possible? You will understand I say practical . . . . Among the changes I have heard suggested by medical men are, first of all, that it might be a good thing to have matters that were technical in their nature tried and decided by experts. The next is that the judge or jury, as the case might be, should not try the question alone, but that the judge should sit with assessors as they are called, experts who would advise him.

After briefly mentioning other methods, all dependent on the sinister words, "if the Court so pleases", His Honour left the matter very much in the air with the following paragraph:

> So it is not for want of machinery that these things are not done. Why they are not done more often, probably the members of the Bar who practise more in the jurisdiction where evidence of this kind is constantly taken, than I have had the opportunity of doing, would perhaps be able to tell you.

His Honour did not discuss the question of a judge sitting without either jury or assessors.

In the discussion that followed, His Honour Judge Macindoe said that

> he did not think judges had much difficulty in making up their minds on questions of medical evidence. The real difficulty arose when the decision on the evidence was for a jury, and not for the judge sitting alone. That difficulty probably arose from the fact that many jurors were not competent to occupy that position . . . . He did not think that a medical assessor would be of much use in jury cases; juries would not take any more notice of him than they did of the judge, and often they took very little notice of the judge.

My correspondent in 1930, "Chancery Lane", wrote in *The Argus*:

> D.M.M. protests against the enormous cost of litigation. If the plaintiff is impecunious the defendant can have the case remitted to the County Court, where the expense is lighter. If it remains in the Supreme Court he can invoke a judge's discretion to refuse a jury trial on the ground that it is a matter of scientific investigation.

Since that date all attempts to invoke that discretion on behalf of medical defendants invariably have been unsuccessful, so definitely so that relief is absolutely hopeless. It is a matter of regret to me personally that such an amiable and helpful controversialist as "Chancery Lane" apparently has not yet attained the Supreme Court Bench; if he has, we have not yet had the pleasure of meeting him in court.

A survey of actions for damages against medical men in English courts as reported in *The British Medical Journal* during the past five years shows that the majority of these cases are tried by a judge alone; and jury cases, with rare exceptions, are heard before special juries. It is exceptional for the amount of damages to be stated, but, when stated, the claims are much more moderate than in our courts. One lady, in whose abdomen a forceps had been left, claimed a modest thirteen hundred and seventy pounds, and yet she was unsuccessful. Perhaps some of my legal friends will explain these points of difference.

Keenly conscious that I am now rushing in where angels fear to tread, I venture to expound a little law. Actions for damages against medical men for wrongful or negligent treatment come under the common law, which entitles the plaintiff to a jury if he so desires. This right of a plaintiff to a jury under common law is qualified by the following rule of the Supreme Court of Victoria:

> Under Order XXXVI.
>
> *Rule 5.* Notwithstanding anything contained in Rule 2 the court or a judge may direct the trial without a jury of any cause, matter or issue requiring any prolonged examination of documents or accounts, or any scientific or local investigation which cannot in their or his opinion conveniently be made with a jury.

The mere fact that as long as twenty years ago the legal profession recognized that cases requiring scientific investigation deserved a special rule is an admission that these cases stand in a different category from the ordinary common law cases.

The practical difficulty, amounting to impossibility, seems to be to obtain the application of this

rule to cases involving medical problems. The involved discussions inseparable from actions against medical men, upon diagnosis, pathology and treatment, make these actions essentially problems requiring scientific investigation; and, God knows, in court it is prolonged enough.

I cannot presume to suggest how the rule could be altered; but if the rule prescribed that cases involving scientific or medical investigation should be tried by a judge without a jury, it being left to the parties for either to make application for a jury if so desired, it would go far towards satisfying every requirement. In other words, a sort of reversal of the present procedure under the rule.

Even these antiquated rules, as you see, have provided a gateway, but it is so heavily chained and padlocked by precedent that only some such variation of the rule as I have indicated will open this avenue to relief.

In a recent judgement on an application by a medical defendant for his case to be tried without a jury, Mr. Justice Gavan Duffy, in dismissing the summons, concluded his judgement with these words:

> If jurors are not to try questions such as this, I think it must be under rules different from ours as they stand at present.

The Chief Justice, in dismissing an appeal to the Full Court against Mr. Justice Gavan Duffy's decision said, *inter alia*:

> We find no fault to be found with these statements [the above being one of the statements referred to].

If I have made out any case calling for relief, in our ignorance we can only invoke the goodwill of our legal colleagues to help us. I am informed that revision of the rules has been under consideration for some years. Is it possible to expedite this very necessary revision?

The medical profession does not ask or expect immunity from the consequences of its blunders. Doctors frequently do pay compensation for claims out of court, sometimes because they are conscious of being at fault, but more often claims are compromised in order to avoid unpleasant and damaging publicity, even when it is obvious that the threatened action is a "pounds, shillings and pence action", to use the phrase of an English judge in dismissing a recent action against a medical man. But some of these actions must be fought. As my much-quoted friend, Mr. Justice Gavan Duffy, said: "The medical man, like other professional men, occasionally has to defend actions which are nothing better than blackmail." We ask for no more than a competent and impartial tribunal. A medical defendant realizes only too well that once his case reaches a jury the cards are stacked against him and it is already half lost. Counsel for an aggrieved patient knows still better that, once the case reaches a jury, it is already half won.

We share the general regard for our judiciary, which follows the English tradition of justice, and from a closer association with several judges in this society we have derived only increased respect and admiration for their character and ability. We are willing to leave our causes in their hands with every confidence that justice will be done; but we do yearn to be delivered from ignorant and prejudiced juries and counsel who have a great reputation in jury cases. The result would be fewer vexatious claims, more reasonable damages, a speeding up of trials with consequent saving in costs, a verdict unaffected by popular prejudices and sympathies, and, where the plaintiff succeeds, adequate but not ruinous compensation.

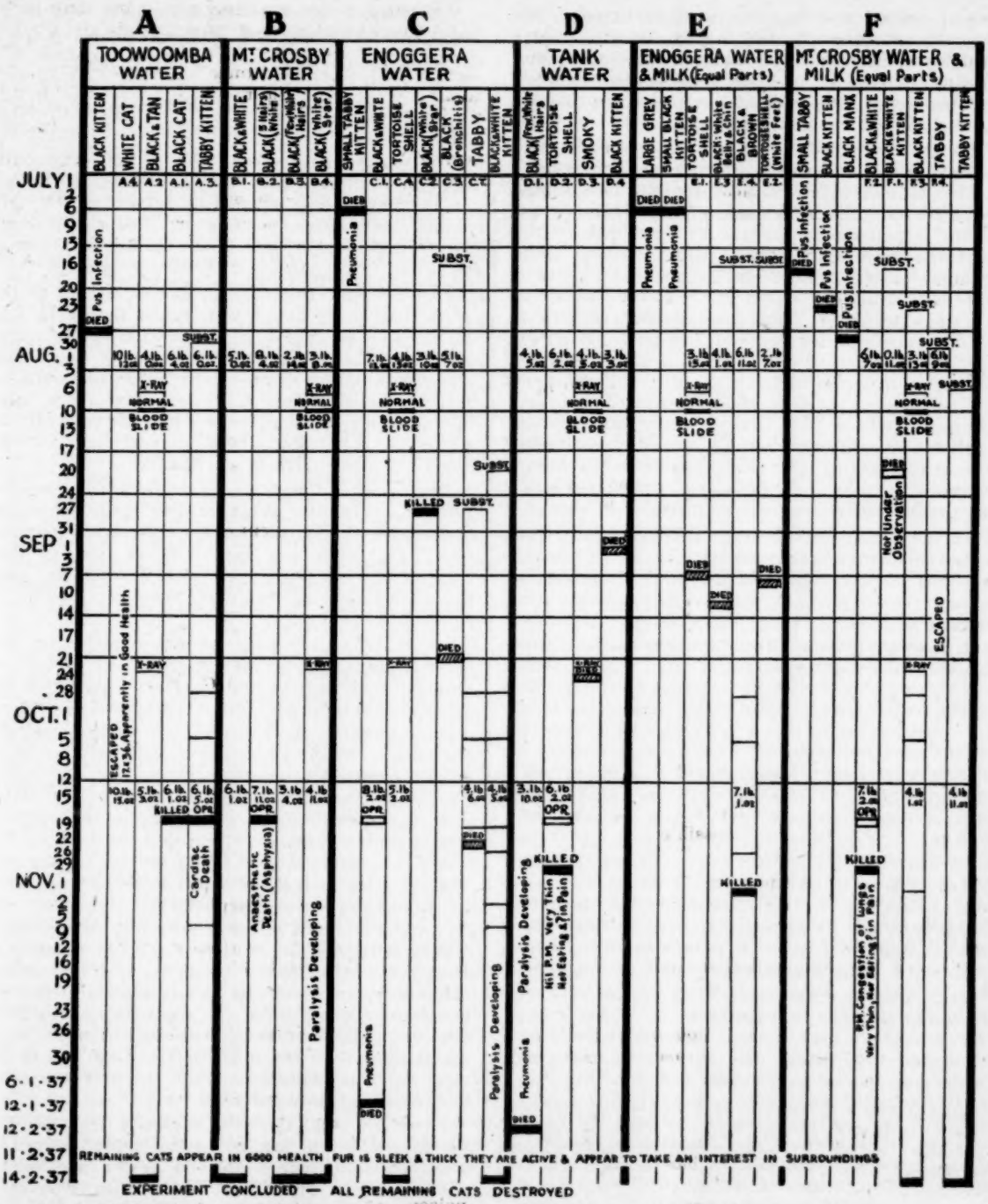
The best minds in the medical profession work unceasingly towards the elimination of disease to their own material loss. Cannot the legal profession fall into line, revise the rules of its technique, and, even at the price of some material loss in litigation, contribute to the sum of human happiness?

THE EFFECT OF DRINKING WATER ON LEAD POISONING IN EXPERIMENTAL ANIMALS.

By Graham Croll,
Brisbane.

The experiments described followed directly on work done by Sir Raphael Cilento, described in the "Official Enquiry into Chronic Nephritis of Queensland", published by the Division of Tropical Hygiene of the Commonwealth Department of Health, Brisbane, in 1932, on work done by Gifford Croll, described in The Medical Journal of Australia of August 3, 1929, and on work described by Jarvis Nye in his book, "Chronic Nephritis and Lead Poisoning", published in 1933.

From their work it appears that: (i) The incidence of chronic nephritis in young people (under forty years of age) in Queensland is much higher than in other States of the Commonwealth or in New Zealand. (ii) If the figures for the various cities of Queensland are considered separately, it is found that five cities show this early incidence (namely, Brisbane, Ipswich, Rockhampton, Townsville and Charters Towers), and five cities do not (namely, Gympie, Mackay, Maryborough, Cairns and Toowoomba). These latter cities show figures similar to those for New South Wales and other States. Country areas are relatively free from the disease. From conversation with physicians in Brisbane it appears that the incidence of lead poisoning, as distinct from chronic nephritis, has been greatly reduced in Brisbane in the last ten years. This is also suggested in Cilento's paper. It is indicated, though not definitely established, that the increase of chronic nephritis in young people in Queensland is due to lead absorption from veranda railings in childhood.



NOTE: HORIZONTAL LINE INDICATES ADMINISTRATION OF 0·1 Gm. Pb. Carb. BY MOUTH

We take the view: (i) that the toxicity of lead, once ingested, depends upon the presence or absence of some factor in the drinking water; (ii) that the presence or absence of this factor in the water supplies of five towns accounts for the grouping mentioned earlier; (iii) that a change in the source of the water supply from the Enoggera supply to the Mount Crosby supply, together with water treatment and filtration, have altered lead toxicity or absorption in Brisbane in

recent years; (iv) that the increased consumption of milk in recent years may have altered the toxicity or absorption of lead; (v) that the reduction in the use of lead paint is not sufficient to account for this decrease in active lead poisoning in Brisbane and does not explain the described grouping of towns.

The experiment was conducted as follows. Six groups of cats were established, and the animals were fed with the same food of a suitable nature. Crude painter's white lead (carbonate) was administered by mouth to each cat in doses of 0·1 gramme weekly. Each group was supplied with different drinking water as follows: Group *A*, Toowoomba water (plumbi impotent); Group *B*, Mount Crosby water (plumbi impotent); Group *C*, Enoggera water (direct from reservoir, plumbi potent); Group *D*, tank water, as in country areas (plumbi potent); Group *E*, equal parts of milk and Enoggera water (this was to determine whether milk intake would protect the animal); and Group *F*, equal parts of milk and Mount Crosby water. Animals were given unlimited water from the appropriate source and were encouraged to drink.

In the accompanying graph a cross-hatched area indicates death from an unknown cause, presumably nephritis. The other deaths were from known causes, which are shown on the accompanying chart.

Biopsies were made from one cat of each group at a corresponding stage, namely, after twelve weekly doses of lead, followed by a respite for two weeks and then one more dose a few days before section of the kidneys. It will be noticed that the whole of the "nephritic" deaths fall within the Enoggera and tank water groups.

Unfortunately, the pathology of the kidneys neither confirmed nor contradicted these findings, and the whole experiment was not sufficiently carefully controlled to be placed upon a sound scientific basis. The work will have to be repeated to be of real value, but it is published in the hope that other data will be produced by men working along similar lines who have not considered their results sufficiently important to merit publication.

It is postulated that the toxicity of lead in Groups *C*, *D* and *E* is due to some factor in the water, such as an organic acid in the soft "peaty" water of Enoggera, rendering the lead carbonate more readily soluble or absorbable.

Any friendly criticism will be gratefully received, but it is fully realized that the work is not sufficiently sound to stand up against adverse criticism.

Acknowledgement.

In conclusion, I wish to acknowledge the valuable assistance rendered during the course of the experiment by the staff of the Animal Health Station, Yeronga, and by the many others who assisted in the work. I wish especially to thank Dr. Noel Gutteridge for his report on the kidney sections.

A VOYAGE FROM PLYMOUTH TO ADELAIDE IN THE FORTIES: THE IMPRESSIONS OF A SHIP'S SURGEON.

By Keith Macarthur Brown.

The sailing ship *Royal George* left Plymouth Harbour on June 1, 1848, with 140 passengers bound for the new colony of South Australia. Of this number, only eleven persons travelled cabin class; the rest were not quite so comfortably accommodated in the intermediate class or steerage.

Doctor Henry Hort Brown had signed on as the ship's surgeon for this voyage round the world, and we are able to gain some conception of the many difficulties and dangers experienced by our hardy predecessors from the carefully recorded events so neatly entered in his diary. A few years later Doctor Hort Brown came to reside permanently in Australia, and this diary is still one of the treasured possessions of his family.

Punctually at the hour appointed Captain Greaves gave the order to weigh anchor, and the *Royal George* moved silently from her moorings under full sail. The wind was in the north-west, so that Eddystone was soon left far behind as they ploughed merrily through the English Channel at eight knots an hour.

Before long their progress was arrested by contrary winds, and the happy mood, so evident at first, imperceptibly decreased as the passengers one by one made their way to the apartments below.

Next morning the captain, Mr. Carlton and the doctor enjoyed the monopoly of the breakfast table, deeply commiserating with those who were confined to their cabins suffering from an intractable form of indigestion. A slack time in the culinary department seemed opportune for the cook to fall down the coal-hole, and he talked of "laying up" to recover from his bruises; but he changed his mind quickly when the doctor informed him that low diet and no grog would be part of his treatment.

Soon after the *Royal George* entered the Bay of Biscay the wind began to blow until it attained the velocity of a strong gale, and woe befell the passenger who ventured out upon the quarter-deck. The spray kept bursting overhead in such heavy sheets that one was immediately drenched to the skin and was obliged to sneak down to the cabin looking like a drowned rat.

Late that night the wind suddenly dropped. The captain, who was reading in the cuddy, jumped up from his seat, seized his sou'-wester and oilskin coat, and went up on deck to shout an order down the after-hatchway for the dead lights to be shipped. Before his instructions could be obeyed, a heavy sea struck the vessel astern and crashed through a window on the larboard side, flooding the Reverend Mr. Hall's cabin to a depth of six inches. The rain came down in torrents once the air became still, but the vessel was all the time being lifted up bodily

on the crest of mountainous waves, to be let fall again heavily into the deep trough behind them.

On June 18 the wind shifted fair for them, and they passed Madeira, sailing along gaily at eight knots an hour, close enough to observe the bold rocks of its coastline and the verdant forests sloping down to the sea.

Early next morning the doctor was awakened by a strange noise on deck. At the imminent risk of dislocating his neck he thrust his head through the cabin window, to see a shoal of albacore or large tunny keeping pace with the ship, not more than a hundred yards away. Quickly gaining the deck, he found the captain with the grains in his hand, making ready to aim. There were some thousands of the fish, weighing from ten to sixty pounds, dashing through the water on either side of the vessel, their green bodies flashing brilliantly in the bright sunlight.

At length they were in the trade winds. As they neared the equator it was not unusual for a day or two to be passed in a dead calm, with the sun blazing down upon them and the atmosphere so oppressive as to make breathing difficult. At one time progress was so slow that a magnificent sunfish, weighing about seven hundred pounds, floated past before the harpoon could be made ready to strike. But later in the day a sailor succeeded in spearing a large dolphin, which provided good fare for the evening meal.

During one of these most exasperating calms Doctor Hort Brown was peering over the stern, hopeful of catching a glimpse of the monster sharks which were in the habit of coming alongside when the vessel was becalmed. As if in answer to his thoughts, a black fin suddenly appeared only a few yards distant from the ship. The doctor rushed off for his shark hook, hurriedly baited it with an appetizing piece of pork, attached a coil of line to the chain and then threw it overboard. The old villain appeared to sight it almost before it entered the water; he made a ferocious dash for it, and, turning on his side, greedily took the hook. The onlookers gave three cheers when they saw that the fight was on, and great excitement prevailed whilst the monster was being deprived of his superfluous energy in order that he might be quickly brought to the gaff. Then a noose was slipped over his tail and he was hauled up to the deck, where it was ascertained that he belonged to a variety of blue sharks known to be most rapacious in their habits. The credit for having attracted the monster was generously conceded to one of the steerage passengers, who ten minutes previously had been swimming about with a rope tied round his waist. Half a dozen knives were soon hacking at the carcass, and further investigation showed that his stomach was empty.

On July 18 the *Royal George* passed within a few miles of the island of Trinidad, which caused many to regret that they did not possess the peripatetic ability of Saint Peter; a stroll ashore for a couple of hours would have been a pleasant interlude in the midst of such a long, tedious voyage. The dull monotony was occasionally relieved, however, by the visit of a cape pigeon or an albatross. August 4 was heralded by a welcome visit from the stork, and shortly after its arrival the doctor was able to announce at the breakfast table that a new addition had just been made to the family circle. The news created much excitement amongst the ladies, who were with great difficulty restrained from rushing down below. However, their ardour eventually subsided with the doctor's assurance that both mother and child were as well as could be expected.

As they rounded the Cape of Good Hope on the way to Australia, a decided improvement was noticeable in the mood of all classes of the small community, and a practical joke was perpetrated on two rather uncongenial passengers, to the intense enjoyment of the rest of the ship. Miss Lamport, a somewhat starchy member of the cabin class, of the type described by the Duchess of Gordon as "all teeth and back", and Mr. Simpkins, a very conceited and self-opinionated young man travelling steerage, were the hapless victims of this ebullition of high optimism and good spirits.

Mr. Simpkins allowed himself to be persuaded by his companions that the young lady had set her eyes upon his sleek face and plastered hair only to feel the shafts of Cupid piercing her very heart-strings. One would scarcely believe that the silly fellow would stand for hours, "muling and puking" outside the cuddy door, for the pleasure of obtaining a glimpse of the fair object of his affections. Night after night he came to watch her needle flying through baby linen, hoping at any moment to receive from her a responsive ogle; but his fellow passengers had not done with him yet. The climax arrived when he found a letter left on his berth purporting to come from the adorable Miss Lamport. It was easy to imagine his ecstasy as he tore it open and devoured the contents; with smothered ejaculations he uttered the words "angel, dove, divinity" *et cetera*, and then with all haste sat down to compose his reply.

The cabin boy entrusted with the epistle indiscreetly handed it to Miss Lamport as she was sitting at dinner, and said: "Here is a letter from Mr. Simpkins, ma'am." The amorous correspondent had acknowledged her letter in a proper manner, and had then said that he supposed they would have few opportunities of meeting before they arrived at Adelaide, but a *rapprochement* might easily be effected there. In the meantime he hoped, in fact was persuaded, that their feelings were mutual, and remained her devoted Simpkins.

The sequel was that the injured lady complained to the captain, who immediately went off to Mr. Simpkins, told him in the most uncomplimentary terms that he was a born fool, and insisted upon an apology being made to Miss Lamport. The disillusioned young man promised never again to

presume in a similar manner, and promptly obeyed the captain's order.

Towards the end of August the *Royal George* encountered another spell of bad weather in the Indian Ocean. A huge wave smashed in the window of the captain's quarter-gallery, flooding the doctor's cabin with water, and his hat-box was already floating about when he went below to investigate. Another heavy sea struck the larboard stern cabin where a woman and her little child were sleeping. The doctor and some of the passengers were gathered round the table discussing the weather situation when the poor woman rushed through the cabin door into the cuddy, crying out: "Oh, come to me, come to me!" She was holding the child in her arms, and both were drenched to the skin and trembling with fear. Every article in the cabin was saturated, and the water was several inches deep upon the floor. Boisterous weather continued for some time, and heavy seas were constantly being shipped. All movable objects not lashed down were to be seen floating round the quarter-deck. Even the larboard bumpkin was carried away, and the position became serious enough for the captain to consider the prospect of having to heave to, in spite of the danger of doing so at the time.

The weather did not moderate until they were abreast of King George's Sound. After a week of pleasant sailing the *Royal George* was running past Kangaroo Island on September 13 with a good breeze behind. Again they were becalmed, and it was two days before the breeze freshened sufficiently to bring them within four miles of the lightship, when a gun was fired for the pilot. Next morning it was a welcome sight to see him parading the deck, and a quantity of fresh beef hanging from the rigging.

With the assistance of the pilot, the first bar was successfully negotiated, but they ran aground passing over the second bar and were obliged to remain there for nearly a week.

While the ship was in this unhappy plight just outside Port Adelaide the doctor and three companions conceived the idea of making an excursion into the bush. Attired as real "bushmen", and equipped with guns, matches, provisions and a pocket compass, they rowed ashore. After walking along the beach for some distance, they decided to strike across thick scrub country, in order to find a lake where the wild duck were known to be plentiful. It took them an hour to reach their destination, and there were the ducks! But how to approach them was a problem for careful consideration. Creeping near to the edge of the water, they remained ambushed for an unconscionable time, up to their knees in mud, with hordes of vicious mosquitoes, whee, whee, wheeing around, until the doctor's hands were all swollen with blisters.

Their patience and forbearance were rewarded at last. With a whirr of wings a cloud of ducks flew overhead within range of their guns, and five were brought down; but in the excitement of the moment the party became separated. Doctor Hort Brown and his companion walked many miles over hill and dale, until eventually they found themselves once more on the shores of the lake. At last they sighted the lightship and made directly for it, heedless of the dense scrub, marshes, water or whatever else threatened to impede their progress.

They were tired out when they came to the beach, and as night had fallen they thought of lighting a fire to reveal their position to the other "bushmen". Finding that their friends had gone off with the matches, the doctor tried the blackfellow's trick of rubbing two sticks together, but without success. He then hit upon the idea of making touch-paper: first he rubbed gunpowder on a piece of brown paper, then loaded his gun with powder, rammed the brown paper down upon it as wadding, and put on a cap. Pointing to the ground, he fired off the gun, and out flew the paper burning beautifully. Plenty of twigs and dead wood soon produced a blaze that attracted their lost companions to the spot. They all spent the night talking and smoking their pipes round the fire. At the break of day they set out to rejoin the ship, and they were thankful to be safely aboard at noon.

Meanwhile, most of the cargo had been transferred to other boats, so that it was not long before they were clear of the bar and snugly berthed at the wharf in Port Adelaide.

The eight-mile journey to Adelaide was made in a conveyance which the doctor thought very like their butcher's cart at home, but it was drawn by two horses in tandem. By the time they had arrived at the settlement he felt as if he had been ground with a pestle and mortar; he was quite sore from the continuous pitching and jolting caused by the wheels rolling in and out of the deep ruts along a beaten track that had never had as much as a load of stones cast upon it.

One fine morning he intended catching the nine o'clock mail coach to Gawler Town, but it failed to put in an appearance, so that he was obliged to start off on foot, carrying a heavy shooting bag full of personal belongings. Later in the day, however, he was glad to accept the offer of a lift, and arrived at Gawler shortly after dark, which saved him from the possibility of having to "bush it" for the night. He stayed at the home of Mr. Carlton, a cabin passenger on the *Royal George*, and gained his first impressions of the Australian aborigines from this visit, as there was a large encampment a few hundred yards out of the township.

The *Royal George* returned to England by Cape Horn, but the youthful and adventurous spirit of the ship's doctor had been deeply stirred by all that he had seen on his travels. He was fascinated with the climate, the free open spaces and the solemn loveliness of the bush. The next visit lasted for the term of his natural life, and it was one of freedom, usefulness and great happiness to the end.

ALTERATIONS TO FOOTWEAR.

By Norman Little,
Sydney.

If anyone interested in feet cares to notice people's footwear in the streets or public conveyances, he will readily notice that many are wearing boots and shoes with some modification on them. This applies more to children than to adults; whether they all need some alteration or not cannot be determined from a casual glance. This point, however, is apparent: the principles underlying alterations to footwear are not clearly understood by the great majority of those prescribing them. I shall describe the commoner alterations and indicate some of their uses.

It is essential that before most of these alterations are prescribed the foot shall be mobile; this means that there must be freedom of movement in all directions at every joint. If the foot is not mobile, it should be rendered so by appropriate measures, providing arthritis is not present. In addition to a great deal of discomfort being caused to the patient by the prescription, for example, of crooked and elongated heels in that widespread affection, valgus deformity of the feet, no good can be expected to result from the treatment if there is any rigidity of the feet. Admittedly there are many conditions where movement should be limited; but these are in the minority, and the necessary alteration for them will be described.

Crooked and Elongated Heels.

Crooked and elongated heels are the most useful and most commonly prescribed alterations. The heel is brought forward on the inner side, to give a better grip on the whole foot. The heel should be brought forward only 1·25 centimetres (half an inch) at most, so that the forward end of its inner side lies under the astragalo-scaphoid joint. The outer side of the heel is left in its usual position, and in the finished article the anterior border of the heel passes across the sole diagonally forwards and inwards from behind.

It is obvious that such an alteration cannot be carried out on a small heel. So much for the elongating; I shall now consider the crooking. This is really a wedging of the heel, with the deeper part of the wedge again on the inner side. For this to be done effectively the whole heel must be removed. It is quite useless putting more leather on the bottom; this must be added at the base, and 0·4 to 0·6 centimetre (one-sixth to one-quarter of an inch) is all the wedging that is needed. Children can stand a quarter of an inch, while adults will not put up with more than one-sixth.

The principle underlying this modification of the heel is the alteration of the line of weight-bearing, and this is the only way in which it can be done with any certainty. With the crooked and elongated heel there is a tendency for the patient to wear down rapidly the postero-lateral aspect of the heel. To save trouble and expense it is advisable that the bootmaker be instructed to insert a small hard rubber or fibre inlay at this site. As this wears, it can be readily replaced, but as soon as the wedging has worn off the heel it should be renewed immediately.

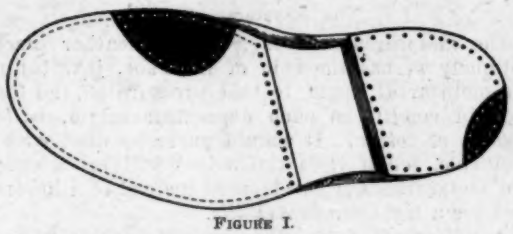


Figure I.
Showing an elongated heel with rubber inset at site of wearing; there is also depicted a wedged sole-piece.

As I have said, elongation of the heel gives a better grip on the whole foot and supports the head of the astragalus; it should hardly be necessary to mention that the shoes should fit properly. The crooking inverts the foot at the subastragaloid joint, and the forefoot then has to pronate at the transverse tarsal joint in order to reach the ground. The results of this are restoration of the longitudinal arch and freedom of movement at every joint. It is obvious that if this is to be attained the shoe or boot must not have a stiff shank. The conditions in which crooked and elongated heels are useful are valgus deformity of the feet, flat-feet, knock-knee, first degree of slipping patella, and conditions such as mild infections *et cetera*, when weight-bearing needs to be taken from the inner side to the middle or to the outer side of the shoe.

Figure II.
Showing, in addition to an elongated heel, a metatarsal bar. The actual position of this is further back on the shoe than is shown in this diagram.

The Wedged Sole-Piece.

The wedged sole-piece consists of a small wedge of leather that is put on the sole of the boot or shoe, under and just behind the head of the first metatarsal joint. It does not cover more than 3·75 centimetres (one and a half inches) of the width of the sole at its widest part, and is about the same length along its inner side, the whole being roughly semicircular in shape. At the same time the plantar surface of the wedge should be convex so that the foot rolls over it during walking. The only indications for this modification are: (*a*) if the forefoot is abducted and (*b*) during the

acute stage of flat-foot. In the latter instance the wedged sole-piece should be removed as soon as the more pronounced symptoms disappear. It is obvious that with this sole-piece on the shoe the longitudinal arch cannot be restored, first because the appliance prevents pronation of the forefoot, and secondly because it causes stiffening of the shoe.

The Metatarsal Bar.

The metatarsal bar is a bar of leather placed obliquely across the sole of the shoe, just behind the metatarsal heads, to take pressure off the forefoot in conditions such as metatarsalgia, *hallux rigidus et cetera*. It should never be used with a stiff sole, for if it is the object will be defeated. The metatarsal bar can be used instead of a lowered heel for a tight *tendo Achillis*.

The Metal Sole-Piece.

The metal sole-piece is incorporated in the leather of the sole, and makes the foot rigid. It is used to prevent dorsiflexion of the great toe in *hallux rigidus*, and to prevent movement in arthritic feet, when this is deemed necessary. The more feet I see, the less inclined I am to use any device to limit movement; and this is true even of those affected with the common arthritides.

Skewed Heels.

Skewed heels are very popular with some surgeons, and are used by them for practically the same conditions as are crooked and elongated heels. The heels are widened and elongated at their antero-internal quadrant without being crooked. The rationale of this modification is to allow weight-bearing where it tends to come, by enlarging the base of support. The main sphere of use is in knock-knee; in this condition the weight comes on the inner side of the heels and the skewing tends to support it.

The Outer Sole-Flap.

The outer sole-flap is a bar of leather wedged from side to side, with the apex of the wedge towards the middle of the foot, placed right along the outer side of the sole. At times it is associated with an outside crooked and elongated heel; that is, with a heel just the opposite of that described earlier as crooked and elongated. The idea of the outer sole-flap is to put the foot into eversion and dorsiflexion. It is mechanically unsound, for it causes knock-knee. If eversion is needed, an inside iron and outside T-strap should be used, and this applies especially to club-foot; in this condition the shoes should never be altered.

I have seen several children with mild degrees of bow-leg wearing outer flaps; surely it must be appreciated that 90% of bow-legs recover spontaneously, even in a place like England, where rickets is still prevalent. Furthermore, an outer sole-flap cannot have anything but a deleterious effect on a bow-leg. A secondary deformity of both knock-knee and bow-leg is valgus deformity of the foot, and anything that will increase the associated deformity cannot be expected to cure the primary one; moreover, it will give rise to knock-knee.

Excavated Heels.

In excavated heels the inside of the heel is excavated and filled with sponge rubber. These should always be combined with a crooked and elongated heel, otherwise they are of no value, since there is always some associated static disturbance of the feet. They are useful in conditions such as calcanean spurs, plantar fasciitis and other inflammatory affections of the heel.

Summary.

1. In the great majority of cases feet must be mobile before alterations to footwear are prescribed.

2. The crooked and elongated heel is the most useful and the most frequently prescribed modification. It can be used for several conditions constantly met with in practice.

3. The other alterations described have their uses, but are not needed as often as the crooked and elongated heel. The main uses for them have been described.

4. The danger of the outer sole-flap has been stressed.

Reports of Cases.

MENINGO-ENCEPHALITIS FOLLOWING GERMAN MEASLES.

By R. J. Taylor, M.B.,

Honorary Physician, Saint Vincent's Hospital, Sydney; Honorary Assistant Physician, Royal Alexandra Hospital for Children, Sydney.

On September 29, 1936, J.N., a girl of eighteen, noticed a pink rash on her face. Next day the rash had spread all over her body, but was most marked on the face. She went to the casualty room of Saint Vincent's Hospital to get a certificate of unfitness for work, and was examined by one of the resident medical officers (Dr. P. J. Kenny). The pink macular rash was typical of German measles, the occipital glands were enlarged and tender, the temperature was normal, and she did not feel at all ill. There was no cough or coryza. The following day she was in good spirits and seemed quite well, but complained of slight pain in the back and in the wrists and ankles. The rash had practically disappeared.

Next morning her mother found her semiconscious, with twitching, trembling hands. She answered questions in a drowsy, monosyllabic fashion, and then lapsed into a stuporous state. While being taken to hospital she had a fit. On admission to hospital she was in deep coma, was breathing stertorously and was cyanosed. There was slight rigidity of the neck, the pupils were moderately dilated and inactive, the tendon reflexes and abdominal reflexes were absent, and there was an extensor plantar response on the right side. Kernig's sign was not elicited. No rash could be seen. The temperature was 36·8° C. (98·4° F.), the pulse rate 108 and the respiration rate 40. No abnormal physical signs were found in the heart or chest. The urine contained albumin. Microscopically a few red cells were found, but no casts. Twenty-five cubic

centimetres of cerebro-spinal fluid, not under increased pressure, were removed by lumbar puncture. Examination of the fluid revealed that the globulin was increased, the chlorides totalled 675 milligrammes per 100 cubic centimetres of fluid, and the cells numbered 130 per cubic millimetre, being chiefly lymphocytes. No tubercle bacilli or other organisms were detected. There was no reaction to the Wassermann test. No organisms were grown on attempted culture. Microscopic examination of the blood revealed that the erythrocytes numbered 4,000,000 per cubic millimetre, the hæmoglobin value 88%, the colour index was 0·97, and the leucocytes numbered 9,400 per cubic millimetre, of which 60% were neutrophile cells (band forms 8%, segmented forms 52%), 31% were lymphocytes, 7% were monocytes, 1% were eosinophile cells, and 1% were basophile cells.

The patient died that evening, four days after the first appearance of the rash. Her previous medical history was that she had had measles in early childhood and concussion three years previously, and that she had fallen and hurt the lower part of her back a fortnight before the present illness.

Post mortem examination was made by Dr. A. H. Tebbutt. The findings were as follows. There was a blotchy erythema of the face and a macular rash on the upper part of the arms (this was not present before death). Both lungs contained much blood and little air, especially the right lower lobe, but no consolidation. Microscopically examined, the right lower lobe revealed marked engorgement, with numerous red blood cells and also polymorphonuclear leucocytes, also a little fibrin and faintly-staining serum in the alveoli, a condition found in inflammatory congestion. The heart showed no lesion. There was some excess of pericardial fluid. The liver appeared congested and, microscopically examined, showed engorgement of the vessels of the central part of the lobule. The spleen was slightly enlarged. The suprarenals were apparently normal, and the kidneys were congested. There were small petechiæ in the mucosa of the stomach. The contents of the stomach were odourless and bile-coloured. No abnormality was found in the uterus or adnexa.

There was no evidence of much increase in the cerebro-spinal fluid. The brain cortex did not appear hyperæmic on macroscopical examination, though the vessels in the pia arachnoid were congested. No lesions were seen in the brain down to the upper end of the cervical cord. Sections were cut of the cerebral cortex, of the upper end of the medulla, of the lower end of the medulla and of the upper end of the cervical cord. As these showed a perivascular increase of small round cells, Dr. Oliver Latham was asked, and kindly consented, to examine and report upon the brain. Dr. Latham's report was as follows:

> Specimens were cut and stained from the frontal, parietal, occipital and Rolandic areas, from the hippocampus, the optic thalamus, the lenticular nucleus, the brain stem and peduncles, the pons, the medulla and part of the cervical cord.
>
> Generally speaking, the condition could be described as one of meningo-myelitis, acute to subacute. The pia is thickened and hæmorrhagic, and is filled with small mononuclear leucocytes and some larger similar cells, and there are places where some blood extravasation or toxic softening has affected the outer part of the first cortical layer, so that the definite brain border is obliterated and a sort of minute, cyst-like cavity obtains, filled with what appears to be fibrin. The cyst-like area sometimes includes part of the dilated subpial space.
>
> The brain is very "wet"; all the neurones and blood vessels are surrounded by a space, no doubt in life filled with cerebro-spinal fluid and sometimes serum. The vascular system, especially the arterioles and capillaries, is diseased. Either there is a hyaline transformation or cellular proliferation, and in some cases there is no doubt but that the fibrous tissue in the coats shows swelling by imbibition; this is well brought out by Van Gieson's stain. Very often the lumen seems practically non-existent and is always diminished. Characteristic is the capillary unable to contract, although empty, because its wall is hyaline.
>
> Nearly every blood vessel, of whatever size, has a collar of mononuclear leucocytes around it, sometimes serum and a little pigment. The neurones are unequally affected. Many have dislocated nuclei or none. Tigloid bodies are commonly absent, and, while some of the Betz cells show processes, in common with their lesser neighbours they are poor in shape, poor in processes and almost entirely lacking in tigloid or Nissl bodies. At times the distorted neurone has knobby excrescences, the prelude to dissolution.
>
> The cells in the nides or nuclei about the aqueduct are especially affected, and the œdema about the *substantia nigra* cells is remarkable.
>
> These cells reveal their characteristic pigment, not as clear orange-black granules, but as a faintly-staining dust, and the cells themselves are undoubtedly affected. In all these places there are the same diseased vascular conditions. Beneath the pia there are patches of neuroglial proliferation, but this is not very marked. Deeper in there are excessive numbers of nuclei rather than definite giant glia cells. There is swelling of the oligodendroglia, and no doubt microglial increase. Numerous small and large petechial hæmorrhages are evident, and little areas of microscopic softening, possibly residues of perivascular hæmorrhages. In many places in the central nuclei evidence of local malnutrition and extra nuclei are found, showing interference with nutrition when the capillaries are functioning badly. These were marked in the peduncles near the outside, where the transition of thousands of "extra little nuclei" into amyloid bodies can be noted.
>
> In the caudate nucleus the larger arterioles seem quite broken up as the result of toxic thickening and degeneration.
>
> The dentate nucleus of the cerebellum reveals diseased blood vessels, at times affecting the neurones.
>
> The cord was stained by hæmatoxylin and eosin, Sharlach *R* and alizarin.
>
> No tract degeneration or areas of softening were noted. In one or two patches swollen axis cylinders obtain, and a little of the perivascular mononuclear invasion so evident higher up. No Marchi degeneration was seen.

Comment.

Encephalitis following German measles is a rare occurrence. Twelve cases only have been reported, none hitherto in Australia. Some doubt has been expressed as to the validity of the diagnosis of German measles in the earlier cases described, and it was suggested that they might have been mild cases of measles (morbilli), of which disease encephalitis is a well-recognized complication. The diagnosis of German measles is purely clinical. In support of its correctness in the present instance it may be mentioned that German measles existed in Sydney in epidemic form about this time. Dr. Hales Wilson,[c] assistant medical superintendent of the Prince Henry Hospital, drew attention to its prevalence and mentioned the remarkable resemblance of some of the cases to scarlet fever. Dr. Kenny had seen numerous cases, four or five a day for some weeks. The patient had had measles in childhood, she did not feel ill, there was no cough or coryza, the temperature was normal and she had enlarged, tender occipital glands.

Merritt and Koskoff[d] described four cases in 1936, and made an analysis of these and of seven previously recorded cases. They found that the ages varied from five to thirty-three years, most patients being under fifteen. They were about equally divided between the two sexes. The interval between the appearance of the rash and the onset of neurological symptoms varied between two and six days, with an average of four days. The temperature was normal or only slightly raised at the onset of involvement of the nervous system. In one case only was it markedly elevated. Headache was the presenting symptom in six of the eleven cases. Stiffness of the neck and

Kernig's sign were found in four cases, and attacks of unconsciousness with convulsive movements in seven cases; mental confusion was found in six cases, conjugate deviation of the head and eyes in two cases, diplopia in one case and nystagmus in one case; hemiplegia and hemianopsia were found in one case; urinary retention was found in two cases and paraplegia in one case; absent deep reflexes were found in three cases; Babinski's sign was found in five cases; cerebellar signs were found in one case and bulbar paralysis was found in one case.

The cerebro-spinal fluid was usually not under increased pressure. The cell count was increased, generally varying between 10 and 200 per cubic millimetre. Rarely, only a few cells were present; in one case there were 400 per cubic millimetre.

Lymphocytes were the predominating type of cell, but a few neutrophile cells were usually present. The protein content was moderately increased, and the sugar content was normal. The chlorides were normal or slightly decreased in quantity. The fluids were sterile. Only one of the eleven patients died. Baumgartner[(5)] has since recorded the case of a girl, aged ten years, who recovered.

Acknowledgement.

I should like to express my thanks to Dr. Oliver Latham, not only for his report, but also for a delightful and unforgettable demonstration of the sections.

References.

(1) H. Wilson: "Scarlet Fever and Rubella", The Medical Journal of Australia, September 12, 1936, page 413.
(2) H. H. Merritt and Y. D. Koskoff: "Encephalomyelitis following German Measles", *The American Journal of the Medical Sciences*, Volume CXCI, May, 1936, page 690.
(3) E. A. Baumgartner: "Encephalitis following German Measles", *New York State Journal of Medicine*, Volume XXXVI, June 15, 1936, page 907.

BILATERAL TUBAL PREGNANCY: A REPORT OF TWO CASES.

By David D. Browne, M.B., B.S., F.R.A.C.S.,
Wangaratta, Victoria.

The occurrence of bilateral tubal pregnancy is sufficiently rare to be worth reporting. De Lee, in his text-book, states that it was noted first by Noier in 1595 and that "double tubal gestation has been observed", but he gives no figures. Dean Lewis, in his "Practice of Surgery", does not mention it. Its frequency in relation to normal twin pregnancies would be worth establishing. The occurrence of two cases in the general practice of one individual in a short time is probably unique.

Case I.

L.C.S., aged twenty-seven years, a *nullipara*, was seen on February 10, 1937, having been seized with moderately severe lower abdominal pain when stooping three days previously. This pain was shortly followed by bleeding *per vaginam*, and the process was repeated on several occasions till she sought advice. The patient's menstrual history had been normal till the last period, which had occurred five weeks previously, on January 5, 1937. The previous history was that of a healthy woman, with no pelvic or other illness relevant to the case, and no previous pregnancy. Examination revealed the patient's temperature to be 37·25° C. (99° F.) and the pulse rate 112; tenderness was present across the lower part of the abdomen, particularly on the left side; there was fullness in the left fornix, and acute pain was felt when movement of the cervix was attempted by the examining finger.

Operation was performed at once, and a left tube distended with blood clot and ruptured was revealed. There were blood clot and fresh blood in the pelvis. The tube was removed. Examination of the pelvic organs revealed a bluish swelling, the size of a walnut, in the distal half of the right tube. As it was thought also to contain a tubal pregnancy, this half of the tube was removed. The mucous membrane at the cut end of the remaining half tube was sutured finely to the cut edge of the serous covering, in the hope that a patent ostium and a faint chance of intrauterine pregnancy might be left, despite the risk of another tubal pregnancy in the shortened tube.

On section, the macroscopic appearance of the dilated portion, which was irregularly thin-walled, except in one thick, roughened part, was not that of a simple hæmatosalpinx. The diagnosis of bilateral tubal pregnancy was not questioned, but it is regretted that microscopic confirmation of the presence of villi was not obtained, as was done in the next case.

Case II.

J.McQ., *multipara*, aged twenty-seven years, was admitted to the Wangaratta District Base Hospital under my care on June 29, 1937, with a history of abdominal pain of ten days' duration, including four severe attacks in the lower part of the abdomen; there had also been bleeding *per vaginam* following amenorrhœa of six weeks' duration.

The patient's temperature was 36·15° C. (97° F.) and her pulse rate was 66; the abdomen was very tender, especially low down on the right side, and a mass was palpable through the right fornix; acute pain was felt on attempted movement of the cervix. The presence of a ruptured ectopic gestation could hardly be doubted.

The patient had had one child, now aged ten years; there had been no other pregnancies. She had had an operation for appendicitis four years previously, and a perineal repair operation at the Women's Hospital, Melbourne, two years previously, with subsequent decrease, but not cessation, of a troublesome vaginal discharge. A dragging and aching pain had been present in the lower part of the right iliac fossa for years.

Operation was performed at once and revealed the right tube to be distended with blood clot to the size of a child's fist, dripping blood from a rupture and from the fimbriated end. Old and fresh blood clot lay in the pelvis. The right ovary contained a cyst the size of a golf ball, and several smaller cysts. The left ovary was normal in appearance, but a hæmatocele of the size of a walnut lay between it and the fimbriæ of the tube. The tube itself was dilated in its medial part in irregular fusiform fashion, and obviously contained blood. The right tube and ovary were removed *en masse*. The left tube was removed and submitted to Professor MacCallum, of Melbourne University, for pathological report. This was as follows:

> *Re* J.McQ., aged twenty-seven years. The wall of the tube is much swollen and the vessels enormously congested, so that it forms quite a substantial wall to the sac-like dilatation. Over part of this wall folds of the Fallopian tube have disappeared and, where they are present, they are enormously engorged and swollen. On the surface of the thinner part of the wall, where the mucous folds are absent, blood clot is attached and there is much hæmorrhage in the superficial tissue, where the blood channels are of large dimensions. In the large clot contained in the dilated tube and in the clot attached, structures resembling villi with characteristic epithelial covering are present, so that there is little doubt that the condition is due to pregnancy. The decidual reaction is not a marked feature of the tissue. On the surface of the clot there is an abundance of polymorphs, and on the peritoneal surface of the tube there is, in places, a well-marked inflammatory reaction with blood-stained exudate and hæmorrhages and with a large emigration of polymorphs. Similar infiltrations are seen here and there in the folds in the lumen of the tube, and polymorphs are fairly numerous in the fibrinous and hæmorrhagic material found in the lumen. The appearance suggests that an infective process has complicated the conditions. There is much infiltration about the blood vessels in the thickened wall of the tube, but this is almost entirely lymphocytic. There would appear from your account to be little doubt that this is a case of bilateral tubal pregnancy.

Reviews.

THE PELVIS AND POSTURE IN CHILDBIRTH.

"Safe Childbirth: The Three Essentials", by Kathleen Vaughan, comes to us with a foreword written by that eminent authority Howard A. Kelly, who recommends it as a work of enormous value.[1]

Whilst reading through its three sections one cannot but be impressed by the newness of the author's conceptions and by their overwhelming importance to the national welfare at this period of declining birth rates and birth phobias. We recommend this book to the careful perusal of all ministers of education, to school medical officers, and particularly to all mistresses of girls' schools.

Dr. Vaughan shows that it is during childhood that the pelvis is either made or marred for safe child-bearing. During this period the family physician has less influence on the child's development than its instructors, and it is the latter who must design and put into use a system of exercises based on Dr. Vaughan's beautiful illustrations. So much is new and startling in this book, and so little work along similar lines has been done that it behoves all in charge of maternity hospitals either to confute or to confirm her claims by similar work.

The author explains how the hopelessness of maternity work amongst the Purdah women of India, where the Y-shaped pelvis due to osteomalacia is so prevalent, drove her to seek for the explanation of why the civilized suffer in childbirth more than the savage, and the woman living indoors more than the open-air dweller, however hard her work. "The Three Essentials" sum up the results of her researches.

The first of these is the round brim, which, Dr. Vaughan claims as the result of her extensive studies of native women of Egypt and various parts of India, is the shape of the normal pelvic inlet. The author shows that the oval pelvis, the so-called normal pelvis of civilized woman, is caused by faulty development from birth to puberty. The chief factor, she states, in the formation of the shape of the pelvis is the sacrum, which, in positions mostly assumed in civilized life, namely, standing, sitting on chairs, sitting to void excretions *et cetera*, is in a position of nutation. In this position the upper portion is tilted forward, rotating on an axis passing through the lower part of the second sacral vertebra. It thus encroaches on the conjugate diameter of the pelvic brim and, at the same time, increases the lumbar curve of the spine. In the positions most frequently assumed by native races, such as squatting, both to rest and for the purpose of voiding excretions, the sacrum rotates backwards, with the opposite results of obliterating the lumbar curve and of increasing the length of the conjugate diameter of the pelvic brim. Dr. Vaughan claims that the pelvis at puberty is more or less a fixture, and that, therefore, correction of faulty development is a matter for the period of childhood.

The second "essential" is flexible joints. The writer claims that fixed pelvic joints are a product of civilized habits. She states that the pelvis is most rigid in positions of forward tilting of the sacrum with increased lumbar curve characteristic of sitting or standing positions; and that modern high heels and rigid corsets tend to perpetuate this condition, whilst activities such as squatting, crawling *et cetera* tend to keep these joints supple. It is to these conditions of rigidity or flexibility of the pelvic joints that the author attributes the back-pain complained of by civilized women, and due to the tearing of rigid ligaments; or the painless labours usual in peoples who habitually use the squatting posture and whose pelves have a round inlet and supple joints.

The third "essential" is natural posture. This is, of course, the squatting posture in one of its several modifications. Dr. Vaughan demonstrates that during the last period of pregnancy, with each assumption of the squatting position the fœtal head descends through the pelvic brim, which at the same time enlarges to accommodate it; and that this preliminary moulding is important, because it makes easier the final moulding during labour before the descent of the head. It is also shown that in the squatting posture the innominate bones rotate outwards and upwards, thus widening the pubic arch and separating the ischial tuberosities, in other words increasing the pelvic outlet. The writer stresses the fact that the perineum is more relaxed in this posture than in any other, and that, as a consequence perineal tears are unusual; and, because of the downward flow of discharges, sepsis is almost unknown. Finally she holds that amongst primitive people who have a round pelvis with flexible joints and who use the squatting posture during labour, maternal and fœtal deaths and maternal sepsis are practically unknown.

Dr. Vaughan does not discuss the question of anæsthesia in labour, and it is difficult to see how such a posture could be maintained by a patient under even partial anæsthesia. We feel that herein lies the real difficulty in adopting her suggestions, and that civilized woman would not willingly forgo the relief of anæsthesia for an undoubted help to safe child-bearing. This, however, would be of little consequence if their pelves were perfectly formed. And so we say again that Dr. Vaughan's book will be of most use to the child's instructors.

[1] "Safe Childbirth: The Three Essentials", by Kathleen O. Vaughan, M.B., with a foreword by H. A. Kelly, M.D., LL.D.; 1937. London: Baillière, Tindall and Cox. Medium 6mo, pp. 164, with 49 illustrations. Price: 7s. 6d. net.

PHYSIOLOGICAL PRINCIPLES IN TREATMENT.

Six years have elapsed since the publication of the sixth edition, and it is twenty-seven years since "Physiological Principles in Treatment" first emerged from the pen of Dr. (now Sir) W. Langdon Brown. The seventh edition, like the last, has been largely rewritten and rearranged, with the collaboration of Dr. Reginald Hilton.[1]

This excellent summary of so much knowledge requires no introduction to the practising physician. To any newcomer it can be faithfully described as the most rational, readable and helpful text-book on applied physiology and therapeutics extant. An amazing number of proven and relevant facts have been incorporated into its lessons, but the arrangement is so orderly and the value so obvious that the reader becomes too interested to experience the mental fatigue inseparable from the condensation of so wide a field into one relatively small volume. It is remarkable to observe how criticism in earlier editions of this work, aimed at many older methods of treatment or bases for treatment, more traditional than scientific, has been repeatedly justified by the march of time. Such criticism, its purpose achieved, is thereupon omitted from new editions, or rather redirected against more recently adopted therapeutic follies. "It is always a difficult moment", write the authors, "to decide the moment at which new experimental work should be sponsored in a clinical text-book. It has happened in the past, that we have been reproved only to find that by the time the next edition was required the work had been discarded by the laboratory."

The various chapters would each make a remarkably good lecture to a senior student or post-graduate class engaged in the study of the principles of medicine. Not all the subdivisions of medicine are included; for instance, there is no separate consideration of the applied physiology of the nervous system, but much of this is included in descriptions of the part it plays in the alimentary, vaso-

[1] "Physiological Principles in Treatment", by W. Langdon-Brown, M.A., M.D., F.R.C.P., and R. Hilton, M.A., M.D., F.R.C.P.; Seventh Edition; 1936. London: Baillière, Tindall and Cox. Royal 8vo, pp. 319. Price: 10s. 6d. net.

motor and endocrine systems. The first chapter, entitled "The Principles of Organotherapy" hews a clear-cut path through a thick jungle of contradictions and misconceptions. Sir W. Langdon Brown is well known for his other excursions into this field, and the section forms an authoritative and lucid beginning to the remainder. A considerable section is devoted to the physiology of the alimentary canal and associated glands, which deserves a repeated perusal by anyone who has to treat a patient with dyspepsia. In general, the suggestions and explanations offered coincide closely with clinical experience. In minor detail some practices which have been advocated in earlier editions and are still recommended have not always appeared to help or modify the disorder for which they were intended. Such are the use of adrenaline in gastric hæmorrhage and irritant poisoning, and the restriction of thyreoid administration to only a small proportion of patients with obesity. However, we have no experience of the recurrence of duodenal hæmorrhage following an enema, so cannot discuss the value of a prophylactic injection of adrenaline, nor can we say that perforation is a frequent sequel to the histidine therapy of peptic ulcer. We have felt the urgency to give a transfusion to patients suffering from hæmatemesis before their hæmoglobin level fell below 35%, and then usually by the large drip-transfusion technique of Marriott. This method deserves a mention in the eighth edition, and so does the intracardiac injection of adrenaline in Stokes-Adams attacks.

The chapter on renal disease, with its systematic denunciation of all the older principles of therapy, is one of the best in the book. The remarks on the causation of glycosuria and diabetes are equally valuable, but those on diabetic treatment are both inadequate and even misleading. This is compensated for by a good description of ketosis in its various clinical guises, accompanied by pithy practical directions for prevention and treatment. This section concludes with a favourable note upon mandelic acid therapy.

An astonishing amount of cardiological information is crowded into the next chapter, including sufficient directions for the use of quinidine and digoxin. The statement that syphilis causes many instances of heart block fails to agree with our own experience.

The concluding chapters on blood formation and the anæmias, dyspnœa and cyanosis, and allergy are succinct summaries of present-day conclusions on these questions.

This seventh edition surpasses even its own predecessors. It is a remarkably valuable source of all kinds of clinical information, excellent for revisionary purposes, and nevertheless in an always readable and orderly form. There will be a strong demand for "Langdon Brown" by many generations of medical examinees.

CHILDREN'S DISEASES.

THE exhaustion of the first edition of Bruce Williamson's book entitled "Diseases of Children" has given the author the opportunity of revising completely and rewriting certain portions of the book in accordance with recent work.[1] The original format is retained.

In Chapter I, which is devoted to diseases of the respiratory system, *asphyxia neonatorum* is described, one paragraph being devoted to *asphyxia pallida* and another to *asphyxia livida*.

In Chapter VI, on diseases of the heart, are enumerated the precautions for ascertaining the basal sleep rate. There is also much additional matter concerning the dosage of digitalis, more especially maintenance dosage and the symptoms of overdosage.

In Chapter VII several pages of new matter concerning myocardial development have been added, while the value of the sedimentation rate in heart diseases is discussed.

Other chapters in which considerable alterations or additions have been made are those dealing with the blood, renal infection and infant welfare.

The illustrations and the "formulary of well tried prescriptions" are retained.

It is interesting to note from the preface that the book has been adopted as a text-book in certain undergraduate schools. The book should be most useful to the student and young practitioner.

[1] "A Handbook on Diseases of Children, including Dietetics, Welfare and the Common Fevers", by B. Williamson, M.D., M.R.C.P.; Second Edition; 1936. Edinburgh: E. and S. Livingstone. Crown 8vo, pp. 340, with illustrations. Price: 10s. 6d. net.

CATARACT AND ITS MEDICAL TREATMENT.

IN the "Medical Treatment of Cataract", by A. Edward Davis, the author has set out to prove that incipient cataract can in many cases be arrested or cured without recourse to surgery.[1]

After a somewhat rambling and discursive account of the signs and symptoms, and of what the author and others believe to be the ætiology of this condition, treatment is discussed at considerable length.

In the chapters on treatment, not only the author's recommended methods, consisting mainly of attention to the general health, especially diet, and of injections of lens antigen, but numerous other forms of therapy are described. The reader is not informed whether the author favours these other methods of treatment or not.

That there may be some truth in the author's contentions cannot be denied, but the manner in which his thesis is presented to the reader fails to carry conviction.

Throughout the book, which contains many grammatical errors and several incomprehensible diagrams, there are much repetition, a tendency to labour points which to any medical man, and especially to an oculist, should be elementary, and a habit of recording clinical and other findings and of drawing what seem to be unwarranted conclusions therefrom. The book cannot be recommended as a scientific treatise.

AN EPITOME OF OBSTETRICS.

THE second edition of "An Epitome of Obstetrical Diagnosis and Treatment in General Practice", by Bethel Solomon, has now appeared, and is only an "aid", as the author states, to a more complete work.[2]

Few will agree with the author that "there is no need to wear masks or gowns". The writer does not control the fundus; and few general practitioners stay at least an hour after delivery. It may not do any harm for the patient to get up on the fourth or fifth day, but so often it is the only chance a poor mother has of obtaining a rest. We do not agree that the patient's abdomen should ever be opened in her own home in the treatment of ruptured ectopic pregnancy. The author is very much mistaken if he thinks Ireland is the only country where patience is used in the treatment of occipito-posterior presentations. There are six conditions to be fulfilled before the application of forceps; the author has omitted that true labour pains or contractions should be present.

[1] "Cataract: Its Preventive and Medical Treatment, for Specialists, General Practitioners and Students", by A. E. Davis, A.M., M.D.; 1937. Philadelphia: F. A. Davis Company. Demy 8vo, pp. 172. Price: $3.00 net.

[2] "Pocket Monographs on Practical Medicine: An Epitome of Obstetrical Diagnosos and Treatment in General Practice", by B. Solomons, M.D., F.R.C.P.I., F.C.O.G., F.A.C.S.; Volumes I and II; 1936. London: John Bale, Sons and Danielsson, Limited. Foolscap 8vo, pp. 140. Price: 2s. 6d. net each volume.

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CHRONIC RHEUMATIC DISEASES.

In this issue will be found the account of an important discussion on rheumatism and rheumatic heart disease held at a meeting of that active and alert body, the Melbourne Pædiatric Society. The paper by Dr. Stanley Williams, also published in this issue, was read at this meeting. The subject is one that is engaging the attention of medical investigators in many countries; it was discussed at the recent Adelaide congress; and, as stated in these pages on previous occasions, it has led to the formation of the Empire Rheumatism Council. Australian interest has been quickened mainly by the efforts of Dr. H. Boyd Graham, of Melbourne, and Dr. J. Kempson Maddox, of Sydney. Dr. Maddox was instrumental in securing the adoption by the Section of Medicine at the Hobart congress of 1934 of a resolution setting out the desirability of investigating rheumatism as it affected Australia; this unfortunately found no favour with the Federal Council. Early in this year we published the results of an investigation by Dr. Maddox into the incidence of acute rheumatism and rheumatic heart disease in New South Wales; a little later we published the results of a survey by Dr. Boyd Graham of rheumatism in Victoria. Dr. Graham and Dr. Maddox opened a discussion on the subject at the recent Adelaide congress, and Dr. Graham opened the discussion published in this issue. This journal has always supported the views put forward by these observers. We are emboldened to return to the subject not only by the recent Melbourne discussion and the discussion at the Adelaide congress, but by the publication of the third annual report of the British Committee on Chronic Rheumatic Diseases appointed by the Royal College of Physicians of London.[1]

The first and second reports of this committee were discussed in our issues of January 25 and October 31, 1936, respectively. The third volume, taken in conjunction with the two previous volumes, enables the reader, as Professor F. R. Fraser states in his foreword, to obtain a view of present-day knowledge of chronic rheumatic diseases. In connexion with such a subject it is important to know what is proven and what is conjectural. Many medical practitioners are prepared to accept the *post ergo propter hoc* argument about any form of treatment that they are following at the moment. In any supposedly scientific discussion someone will always arise who has "had a case" from which he is prepared to draw the most far-reaching and dogmatic conclusions. No one who reads the chapter in this book on vaccines and rheumatoid arthritis by Professor C. C. Okell, of University College Hospital, London, will feel justified in using vaccines as a routine treatment in rheumatoid arthritis. Unfortunately those who do use them forget that they apply other remedies, such as physical therapy, at the same time as they use their vaccines; they almost invariably, however, attribute the result to the vaccines. Professor Okell invites medical practitioners who wish to express an opinion on the efficacy of a therapeutic

[1] "Reports on Chronic Rheumatic Diseases, being the Annual Report of the British Committee on Chronic Rheumatic Diseases Appointed by the Royal College of Physicians". Number III, edited by C. W. Buckley, M.D., F.R.C.P.; 1937. London: H. K. Lewis and Company Limited. Royal 8vo, pp. 142. Price: 10s. 6d. net.

measure, to study such books as Yule's "Introduction to the Study of Statistics" and Fisher's books, "Statistics for Research Workers" and "The Design of Scientific Experiments". The two last-mentioned books have been reviewed in the columns of this journal and should form a foundation for any scientific investigation. The reader must agree with Professor Okell that the time has passed when merely personal opinions should be the basis of assessment. Professor J. R. Learmonth, of the University of Aberdeen, writes on sympathectomy in arthritis. He shows that sympathectomy can be relied upon in certain cases to transform a cold clammy limb into a warm dry one, and he states that there is evidence that, especially in early cases, the symptom of pain is relieved by the operation. Although he adds that in a proportion of cases improvement in the arthritic condition and increase in function have been reported, he insists that beneficial results have followed most frequently when careful selection of cases has been made. It is, of course, obvious that operations on the sympathetic system cannot be regarded as direct treatment of the underlying disease. Dr. Gunnar Kahlmeter, of Stockholm, writes hopefully of X ray treatment in chronic arthritis. It is impossible in this place to give details of his procedure, but he finds that X ray treatment produces its best results in acute gonorrhœal and septic arthritis and in acute bursitis, but that it is also effective in tendinitis, in certain cases of neuralgia and in the treatment of periarticular symptoms in rheumatoid arthritis. One of the most interesting chapters in this book is a synopsis of recent American investigations on diseases of joints and related structures, by Philip S. Hench, of the Mayo Clinic. Perhaps of greatest interest is the stress that he lays on the paucity of information on what he calls the most fundamental of all problems in rheumatism—the normal physiology of articular tissues. This is a deficiency that should and surely could be made good; without this information most of the biochemical investigations in arthritic conditions will be valueless. There are other chapters on vitamins and rheumatic diseases, on chrysotherapy in arthritis and on the possible dangers from the administration of certain drugs in rheumatic disorders. This book will be studied by all who are interested in the causation and cure of rheumatic disorders.

We have shown that the study of rheumatic diseases is being carried on in many centres. At the Adelaide congress (if we may anticipate the official report of the proceedings) the Section of Public Health, Preventive Medicine and Tropical Hygiene and the Section of Pædiatrics recommended that a well-organized scheme for the ascertainment and supervision of patients with rheumatic infections, including a central bureau, should be set up in each State of the Commonwealth. This recommendation will in due course come before the Federal Council. Though the Federal Council has no machinery of its own for the carrying out of any such proposal, it is to be hoped that efforts will be made either to create machinery or to persuade governmental or other bodies that have machinery to undertake the work.

Current Comment.

AIR CONDITIONING.

"Air Conditioning" is defined by Dr. C. P. Yaglou[1] as the art of controlling the physical environmental factors to suit human requirements. In the past few years the ventilation of buildings has greatly improved as the result of engineering research, but the knowledge of human requirements is still far from complete.

Air conditioning is rendered necessary by the fact that in occupied rooms the air is polluted physically and chemically by the processes of body metabolism and by decomposition of matter in the skin and clothing. The changes, due to respiration, in the relative amounts of oxygen and carbon dioxide are of little moment, are too small to have any physiological significance, and are kept within normal limits by leakages through cracks about doors and windows. The most important factor in rendering the air of an occupied room objectionable is the presence in it of a miscellany of odoriferous organic matter. Foul breath, the secretions of sweat and sebaceous glands, decomposed matter in skin and clothing, and escaped gases from the alimentary canal, all these make their contribution. These various odours have not been proved to be harmful, but it is common experience that in sensitive persons

[1] *The Journal of the American Medical Association*, May 15, 1937.

they cause feelings of stuffiness and discomfort and may induce headache, loss of appetite and nausea. The object of air conditioning, therefore, is to provide sufficient fresh air to prevent the accumulation of what are, for the most part, odours arising from the human body. It has been alleged in the past that expired air has a certain toxicity; at present, all that can be said is that no poisonous substance has as yet been found to be present in such air.

With regard to microbic dissemination in rooms, there is experimental evidence that aerial infection takes place beyond the limits to which infected material may be sprayed. Contaminated droplets of saliva of less than 0·1 millimetre in diameter, ejected into the air during coughing, sneezing or talking, may never reach the floor of a room, but evaporate before they have fallen the height of a man; and pathological organisms may remain in suspension in the living state long enough for their transference to bystanders apparently out of range. The practical importance of these facts depends upon the number of organisms present in the air of a given room and the susceptibility to infection of the exposed persons. It has been suggested that a minimum number of pathogenic germs may have a beneficial effect by stimulating immunity and acting as attenuated vaccines.

The heat and moisture given off by the skin and lungs of people in an enclosed space results in an increase of the atmospheric temperature and humidity, with complaints of overheating. By suitable treatment both temperature and humidity may be reduced to comfortable levels, and fresh air made to circulate, without the production of uncomfortable draughts, so as to dilute odoriferous matter below an objectionable concentration.

The human body produces heat far in excess of its requirements, but maintains its optimum temperature through the dissipation of the surplus through the lungs and skin. The processes imply the need for a constant adaptability to an ever-changing environment, an adaptability which is highly complex, but which exerts its effects, in conditions of health, without the knowledge of the person concerned. Should the effort of maintaining thermal equilibrium involve abnormal or excessive reactions during the period of adaptation, discomfort or distress may be felt. The common sensations of heat and cold are largely produced by changes of skin temperature. Although the workings of the body's heat-regulating mechanism are not fully understood, it may be said that heat production is a function of the liver and endocrine glands, heat loss a function of the blood vessels of the sweat glands, lungs and skin. When the atmospheric temperature rises, the cutaneous vessels dilate. An increased blood flow through the skin raises its temperature, so causing a loss of body heat. This rise of temperature is greatest in the extremities, and particularly in the skin of the feet, a fact which it is important to remember. A fall of atmospheric temperature acts in the reverse manner: there is a constriction of the blood vessels of the skin and the blood supply is curtailed. The temperature may also be increased as the result of muscular tremors and by the stimulation of the thyreoid and the adrenals.

Our feelings of comfort in any atmosphere are governed by four factors: the temperature, the humidity, the amount of radiation, and the degree of movement of the air. These factors are greatly modified by sex, the amount of clothing worn, and even by social status, so that it is almost impossible to fix a standard of optimum air conditions, which will be universally applicable, in terms of physical units. Heat loss from the human body is by radiation to surrounding objects, by convection to the surrounding air and by evaporation of moisture from the skin and lungs. The loss of heat by radiation is dependent on the temperature of the surrounding walls and objects, and is uninfluenced by air temperature; air movements, by lowering the temperature of the body surface, increase losses by convection; losses due to evaporation depend upon the amount of moisture present upon the skin, and this amount is substantially affected by humidity and to a certain extent by temperature also.

The two most important factors to be considered in relation to problems of air conditioning are, therefore, the temperature of the air in the enclosed space and the rate of air movement. In well-constructed buildings, the temperature of the walls should be scarcely lower than that of the air, and a satisfactory rate of air movement is between fifteen and fifty feet per minute. In buildings in which central heating is employed for the major part of the year (as in the United States of America) an air temperature between 69° and 73° F. with low humidity and an absence of draughts has been found agreeable to most persons of sedentary habit. The sensations produced by humidity vary with the height of the temperature. Below 45° F. there is a feeling of chilliness, through an increase in the conductivity of clothing. At higher temperatures intense humidity makes the air apparently warmer by interfering with the evaporation of perspiration. Moderate variations in humidity appear to be unimportant from the point of view of health, and no research has yet proved that it is necessary to increase the humidity of buildings by artificial means, under ordinary conditions. It is possible, however, that under conditions of very low humidity (15% or less) comfort, and perhaps health, may be affected by the production of a drying effect on the mucous membranes of the nose; but such low degrees of humidity are rarely found unless the air is greatly overheated. Most people in normal health are best suited by a humidity of the order of 25%; in certain catarrhal conditions a low humidity has been found to be more agreeable than a high one.

The "freshness" of any atmosphere is closely related to its temperature, its humidity and the amount of odoriferous matter in it. Cool air of moderate dryness is invigorating; hot air causes

feelings of stuffiness and depression, even if it is chemically pure. Body odours and those of gaseous and dusty products destroy the perception of freshness according to the amounts in which they are present.

While moderate variations in temperature are stimulating, great contrasts are harmful, especially to the mucous membranes of the upper respiratory tract, and rheumatic disorders of various kinds are frequently associated with large changes of temperature. These facts have a direct bearing upon the part played by draughts. It is now known that the feet are more sensitive than any other part of the body to quickly-moving currents of air. This is to be explained by the relatively large area of these parts in relation to their mass. Other regions, such as the top of the head and the back of the neck, are also very sensitive, but their "draught threshold" is higher than that of the feet. Yaglou, by long personal observation, has noted an enormous variability in foot temperature and sensibility to draughts under approximately identical atmospheric conditions, and explains these phenomena as the expression of deficient vasomotor responses. It has been frequently noted that complaints of "cold feet" may be made by people of all ages and both sexes when the temperature at floor level equals that at the breathing zone. These facts provide one of the most difficult problems of practical air conditioning. Complaints of cold and draughts at foot level might be reduced by raising the temperature at that level and by reducing air movements, but up to the present time these improvements have been impossible of achievement without the accompanying overheating of the air at the level of the breathing zone.

It is rather a contradiction of accepted belief to learn from Dr. Yaglou that the effects of dust, smoke and the gases of combustion in urban air are not so much matters of health as nuisances and æsthetically offensive. Such pollutions are the cause of considerable damage to property and to vegetation, but the evidence that they are detrimental to health, unless present in the air in very large amounts, is still a matter of controversy. So far as the filtration of air entering buildings is concerned, its efficacy seems to be limited only to the very largest dust particles. Smoke, fine dust and gases defy all the filters commonly used.

THE FEVER TREATMENT OF CHOREA.

In connexion with the contributions on the subject of rheumatism and chorea presented in this issue of the journal, it is pertinent to comment upon some recently published American work. Clarke H. Barnacle, Jack R. Ewalt and Franklin G. Ebaugh[1] have reported the results of two years' treatment of choreic patients by artificially induced hyperpyrexia. In the past two years these workers have used the method in forty-five cases of Sydenham's chorea, employing for the purpose the well-known Kettering hypertherm; and their studies are still being prosecuted at the University of Colorado.

The heat treatment of chorea, it is surprising to realize, is no less than fourteen years old, for in 1923 von Kern instituted pyretotherapy in this disease by the use of intramuscular injections of milk; in 1930 de Ayala achieved some success by the artificial induction of relapsing fever; and one year later Sutton and Dodge reported satisfactory results, or at any rate the shortening of the course of the disease, after treatment with typhoid vaccines.

For the treatment of the present series of patients three Kettering hypertherms were used, the first few patients being exposed to heat of such degree as to produce rectal temperatures varying between 103° and 106° F. The treatment was continued for periods of two and a half hours, and was repeated at intervals of from two to six days. Later, the investigators discovered that their patients responded better to daily treatments of the same length, producing rectal temperatures of 105° to 105·4° F. Longer exposures and higher temperatures than these were found to lead to fatigue and debility, especially in the treatment of patients suffering from cardiac complications.

According to the severity of the disease—the extent of their choreiform movements, difficulties in deglutition and speech, degree of hypotonia, lack of coordination—the patients were divided into three groups. Fourteen of the cases were regarded as severe, twenty-nine as moderate in nature, and two only as mild. The average length of the attack of chorea before the induction of the fever was two months. Most of the sufferers had wholly failed to respond to time-honoured therapeutic measures, and nine of them had previously suffered from the disease. The average number of treatments per patient was about twelve, and treatment lasted over a period of twenty-two days. As might be expected, the more severe cases needed more frequent exposures to the heat; an important observation of Barnacle and his colleagues was that the presence of carditis, a history of previous attacks and the duration of the symptoms bore no apparent relation to the number of heatings necessary to effect a clinical improvement in the choreic state. Cardiac complications were present in nineteen of the cases, and of these, one was of particular interest; it was that of a patient with a pericardial effusion who responded so satisfactorily to the treatment that the effusion disappeared.

Of the 45 patients under treatment, 37 recovered and 8 "improved". By "follow-up" methods a two-year study of 36 of these persons indicated that pyretotherapy is capable of producing lasting benefit. Amongst the 45 patients, four only have suffered a recurrence, and in one other muscular twitchings have become manifest.

[1] *The Journal of the American Medical Association*, July 10, 1937.

Certain precautions have to be observed. Periods of treatment of too great a length, as stated above, are productive of intense fatigue and may besides cause loss in weight. Intensive exposures, too, may aggravate a coexistent carditis. Emaciated children are found to progress better if subjected to the treatment only at two- or three-day intervals. With these precautions in mind, the American workers found few disadvantages attendant upon this method of treatment. Delirium, presumably resulting from hyperpyrexia, occurred only in twelve instances during 562 exposures to the hypertherm, sedatives were seldom or never used, and post-febrile nausea was a rarity. It is only fair to point out, however, that the writers of the paper show a laudable restraint in commenting upon their results. "We recognize", they caution us, "that this period of time is comparatively short, and further study may prove that the results obtained by this therapeutic method are not sustained." We hope that time will show these fears to be groundless.

ANEURYSM OF THE INNOMINATE ARTERY TREATED BY SURGERY.

ANEURYSMS of the innominate artery are not often encountered, for only one aneurysm in thirty affects this vessel; but their physical signs and dangerous nature have long been recognized. Their treatment, however, has been very disappointing. Even today the text-books can recommend as the basis of treatment only the rigid *régimes* of Valsalva and Tufnell, which consist of absolute rest, mental quiet and basal diet. Dissatisfied heroic surgeons of the last and the early part of this century strove to effect radical cure, but the technical difficulties of thoracic surgery in those days and the risks of subsequent sepsis and hæmorrhage were so great that only 22 cases in which surgical treatment was adopted are recorded in the literature down to 1934. Still, surgical enterprise, profiting by failure, has never died; and that the treatment of innominate aneurysm is now within the province of surgery is shown by the successful results gained in seven of the last ten cases reported. The disheartening experiences which preceded these successes, and the evolution of the present operative methods have lately been reviewed by Frank Rundle,[1] who reports three new cases from Westminster Hospital and who expounds the principles of their surgical treatment.

The time-honoured operation is ligature of the innominate artery proximal to the aneurysm; but the method has been found wanting, because not only does it demand a formidable operation of exposure, but it has been followed by serious cerebral and brachial complications in nearly 40% of cases, and successful outcome has been rare. In 1885 ligature of the right subclavian and common carotid arteries was first practised in America as a lesser measure in the treatment of large adherent aneurysms, especially those involving the innominate artery at its origin. Notwithstanding the theoretical risk of rupture of the aneurysm from its sudden conversion into a cul-de-sac of the aorta, this method has proved effective in a number of cases and is the most suitable operation when adhesions or the poor general condition of the patient preclude direct access to the innominate artery.

It is surprising how long it was before surgeons realized the true importance of distal ligature, and made the logical advance of combining this with proximal ligature of the innominate artery, a procedure which must ensure cure of the aneurysm and which, if conditions are favourable, may even be followed by excision of the sac. It was not until 1913 that the triple ligature was performed by Jmai and a cure was effected, the sac in this instance being extirpated. In 1934, Rock Carling successfully performed the triple ligature at a single operation. Previously, Sargent and Ballance had ligated the innominate and right common carotid arteries, but pulsation recurred in the aneurysm.

Rundle, in describing the technique, points out that in the operation for ligature of the innominate artery it is essential to split the sternum; and he quotes three cases in which this was not done and the access was inadequate, as shown by failure of the ligature to occlude the artery. In ligature of the common carotid artery signs of grave cerebral ischæmia may occur, and it is desirable first to employ some temporary and easily removable occlusive agent. Rock Carling employs a small length of rubber tubing, of about the same calibre as the vessel, and, using slip knots, attaches it to the artery with broad tapes; this is done some days before the principal operation.

Aneurysms of the innominate artery are usually near the bifurcation; but if the origin is affected and the aorta is involved, proximal ligature is impossible; and for this condition Rundle describes an original operation for suture of the aorta. It need hardly be stated that before this operation could be justifiably attempted, or indeed any operation on the great vessels, a most searching medical and radiological examination should be made; for any extensive syphilis of the aorta or its valves or of the nervous system, or any precarious state of health must be regarded as a contraindication. Pressure symptoms and signs of involvement of the sympathetic and recurrent nerves should be looked for as indications of the extent of adhesions about the sac. Diagnosis is a prerequisite of treatment, and it is noteworthy that aneurysms of the innominate artery, from the fact that they have caused pulsation in the neck, have often been diagnosed as affecting the carotid; this is due to failure to appreciate the obliquity of the superior aperture of the thorax.

The first successful operation for innominate aneurysm by an Australian surgeon has yet to be reported. Rundle's survey of the subject has cleared the way.

[1] *The British Journal of Surgery*, July, 1937.

Abstracts from Current Medical Literature.

MORBID ANATOMY.

The Subcutaneous Nodule in Rheumatoid Arthritis.

D. H. Collins (*The Journal of Pathology and Bacteriology*, July, 1937) has made pathological observations on a series of subcutaneous nodules removed by biopsy from subjects with rheumatoid arthritis. The age of the nodules ranged from four and a half months to fifteen years. The essential pathology is a combination of proliferation and degeneration of connective tissues, accompanied by new formation of vessels at the margin of the lesion and by infiltration with lymphocytes and plasma cells. The author holds that proliferation of fibrous tissue and of primitive connective tissue cells precedes degeneration, which then commences at a point usually remote from the vascular supply. The author states that his interpretation is different from that of others. The degeneration is "fibrinoid" and takes the form of a granular eosinophilic swelling of the ground substance, disappearance of nuclei and fibrinous exudation into the tissue spaces. The necrosis spreads outwards and a peculiar form of cell reaction takes place round it. There results a wall of radially arranged, closely packed fibroblasts. Later the necrotic material undergoes liquefaction, sclerosis of the encircling fibrous tissue occurs, and in nodules of many years' duration fluid-containing cysts appear. There is strong clinical evidence that traumatic influences determine the sites of occurrence of these lesions, and continued exposure to trauma may play a part in their later development into structures resembling bursæ. The author has also examined the subcutaneous nodule of rheumatic fever. The early changes in the rheumatoid arthritis nodule resemble those in rheumatic fever. Later differences become obvious and the histology of the more fully developed lesion in rheumatoid arthritis is typical of that disease and bears very little resemblance to the rheumatic fever lesion. Neither lesion bears much resemblance to the tissue changes of any other disease, but the author does not think there is enough evidence to allow him to postulate either a close pathological relationship or a common ætiology of the structures.

Melanosis Coli.

Arthur Hurst (*Guy's Hospital Reports*, July, 1937), writing on the subject of *melanosis coli*, describes two cases in which the melanosis disappeared while the patient was under observation. He quotes Stewart and Hickman, who stated that the more extreme grades of the condition were extremely rare, but that if the slighter forms were included, the incidence was fairly high—11·2% in an unselected series of 600 autopsies on persons of all ages. Bockus, Willard and Bank found the condition in the part of the colon accessible to the sigmoidoscope in a degree recognizable by the naked eye in 4·7% of 553 consecutive sigmoidoscopic examinations. In persons over forty years of age the incidence is 17·7%; in carcinoma of the colon the incidence is about 50%, the melanosis being more intense above than below the level of the growth. *Melanosis coli* is due to the deposition of a melanin-like pigment within large mononuclear cells in the mucous membrane of the gut. The patients reported by the author were aged respectively thirty-nine and fifty-two years. Both had taken large amounts of aperients for many years. Endoscopy in each instance revealed an extreme degree of melanosis. When the use of aperients had been discontinued for some months, every trace of pigmentation disappeared. The author points out that the chief causative factor of *melanosis coli* is not constipation nor conversion of a constituent of anthracene laxative into melanin, but the artificial diarrhœa produced by aperients of any kind taken on account of constipation or fear of constipation. The diarrhœa results in excessive putrefaction of proteins throughout the colon. The aromatic protein disintegration products are absorbed by the mucous membrane of the colon and by the action of a tyrosinase-like ferment are converted into melanin within the connective tissue cells. In carcinoma melanosis is generally confined to the part of the colon proximal to a carcinomatous obstruction in which stasis of semi-solid fæces leads to excessive putrefaction and the production of precursors of melanin.

Teratomata.

R. A. Willis (*The Journal of Pathology and Bacteriology*, July, 1937) has continued his study of teratomata. In his investigation of fourteen teratomata he has examined 600 paraffin sections from 234 blocks of tissue. His results confirm those reached in his previous study. He holds that the nomenclature of teratomata is overburdened and that their classification into various subgroups is artificial and often misleading. The name dermoid cyst, in his opinion, as applied to a teratoma is particularly unsatisfactory and should be discarded. A dermoid cyst is merely a benign teratoma, one of the skin-lined cavities of which has become relatively large. The term "multiple dermoid cysts" is always a misnomer, the separate skin-lined cysts being only parts of a single teratoma. Between innocent and malignant teratomata no sharp line of distinction is possible; all gradations occur. The malignancy of a teratoma is often polyvalent, that is, it involves many or all of its tissues and not merely a single component. The author states that there are reasons for believing that a previously benign quiescent teratoma may suddenly assume active growth and exhibit polyvalent malignancy. Occasionally an ordinary squamous-celled carcinoma arises in the skin of an otherwise benign cystic teratoma. The author describes an instance in which the widespread distribution of the carcinoma in the skin of the cyst suggested that the contents might have developed carcinogenic powers. Although many instances of tissue correlations can be discerned in teratomata, these growths are, the author states, fundamentally non-fœtiform. They show no signs of axiation, somatic architecture or regional organ formation. Although the mode of origin of teratomata is still obscure, the author believes that solution of the problem will follow increased knowledge of organizer activity and of the chemistry of the embryo.

Complete Reduplication of the Urethra in the Male.

A. Astuni (*Urologia*, March, 1937) reports an exceedingly rare congenital abnormality in a young man of eighteen, namely, complete doubling of the urethra. The abnormal canal originated directly in the bladder, ran along near the dorsum of the penis and opened in the upper part of the balano-preputial sulcus. There was no incontinence of urine through the accessory canal, and the only disturbance was the emission of a few drops of urine during ordinary micturition when the bladder was very full. With a moderately distended bladder, micturition occurred solely through the normal meatus. Likewise, seminal ejaculation occurred only through the normal meatus. No surgical treatment was indicated. This case is only the fifteenth in the literature.

MORPHOLOGY.

Receptors in the Large Heart Veins.

The identification of the receptor areas in the *venæ cavæ* and pulmonary veins, which initiate reflex cardiac acceleration, is discussed by José F. Nonidez (*American Journal of Anatomy*, July, 1937). Receptor areas containing numerous nerve endings were found in the intrapericardial portions of the *venæ cavæ* and pulmonary veins of the cat, dog and rabbit. Afferent arborizations were also seen in the wall of the coronary sinus near its entrance into the right atrium. Subendothelial terminations and perimuscular arborizations were observed. The latter occur in the walls of the pulmonary veins, but somewhat similar terminations were also found in the longitudinal musculature of the intramural portion of the superior *vena cava* and in the sino-atrial node. The subendothelial

endings occur in all the veins entering the heart. They are regarded as pressoreceptors, since they closely resemble the terminations in the carotid sinus, in the aorta and in the right subclavian artery. It is concluded that the subendothelial nerve endings are mechanically excited during increase of the blood pressure, and that they initiate the stimulus resulting in reflex cardiac acceleration (Bainbridge's reflex). The presence of pressoreceptors in the pulmonary veins indicates that they may also initiate the stimulus for Bainbridge's reflex upon a rise of blood pressure in these veins. The function of the perimuscular nerve endings is obscure. It is suggested that they may represent some sort of afferent neuromuscular synapse or else be somewhat modified, or not fully developed, pressoreceptors.

The Sheath of the Rectus Abdominis Muscle.

ROBERT WALMSLEY (*Journal of Anatomy*, April, 1937) discusses the structure of the sheath of the *rectus abdominis* muscle. Developmentally the sheath is a true rectus sheath derived from the rectus mass, but as the lateral muscles obtain attachment to it, it assumes an aponeurotic character. The sheath gains its final significance only when it is considered in mechanical terms of the muscle resultants of the lateral muscles. The typical portion of the rectus sheath exists in three main forms: (*a*) the superficial wall of the sheath is formed by the *obliquus externus*, and the deep wall by the *obliquus internus* and *transversus*; (*b*) the superficial wall is formed by the *obliquus externus* and the *obliquus internus*, and the deep wall by the *transversus*; and (*c*) the *obliquus internus* splits into two lamellæ, one of which, with the *obliquus externus*, forms the superficial wall, and one with the *transversus* the deep wall. Each form is considered an expression of the action of the lateral abdominal muscles. The atypical condition of the lower part of the rectus sheath occurs, in man, in the region below the interspinous line. This atypical form he believes to be due to a difference in the function of the lowest part of the abdominal wall which undergoes muscularization much later in development than the upper regions of the abdominal wall. The *linea semicircularis* is the lower edge of the upper actively contracting part of the abdominal muscles.

Projection of Medial Geniculate Body to the Cerebral Cortex.

A. EARL WALKER (*Journal of Anatomy*, April, 1937) records the results of work undertaken to determine the extent of the cortical projection of the auditory pathway and to show, if possible, a spatial relation between the medial geniculate body and the cortex. Following cortical ablations in the macaque monkey changes in the medial geniculate body were investigated by the retrograde cell degeneration method of Nissl. Walker suggests that there is a well-localized cortical receptive area for the auditory radiation. The author found that along the inferior lip of the Sylvian fissure several different cyto-architectural fields are present. On the most lateral part of the lower lip of the Sylvian fissure is area 22, but more mesially this gives way to a distinct type of cortex located in the posterior part of the fissure. This area extends along the lower lip for only six to eight millimetres, and is about four millimetres in width. As all the experimental lesions, in which degeneration was found in the medial geniculate body, damaged this area, it is very probably the cortical representation of the auditory system. Accepting this to be the cortical auditory area, the projection from the medial geniculate body is not a diffuse one, but a point-to-point relationship is present between the latter and the auditory cortex.

Ossification of the Human Frontal Bone.

VERNE T. INMAN AND JOHN B. DE C. M. SAUNDERS (*Journal of Anatomy*, April, 1937) discuss the ossification of the human frontal bone. Their observations were made on skulls ranging in age from the sixth week of intrauterine to the tenth month of post-natal life. These observations show that ossification begins in the region of the superciliary arch and simultaneously gives rise to a portion of both the *pars frontalis* and the *pars orbitalis* and to the primitive medial angular process. The common statement that ossification commences at the site of the future frontal eminence is erroneous, and is undoubtedly the outcome of observations made on older specimens. No secondary centres of ossification have been found at any time in the frontal bone. Attempts which have been made to homologize portions of the frontal bone with the pre-frontal and post-frontal elements of premammalian skulls have been based upon the presumed existence of secondary centres. As no such centres exist in the human skull, such conclusions as have been made on this basis must be discarded. It has not been recognized that the *sulcus supra-orbitalis* defines developmentally the level of the primitive orbital margin and that variations in the dimensions of the orbital rim are dependent upon the degree of development of the supero-lateral process. A study of the development of the eyebrow region and of the supraorbital margin indicates that the essential primordia in man and the primate are identical. The differences which exist between adult forms are the outcome of differences in developmental direction alone. Opinions differ as to whether the anterior or posterior lachrymal crest should be considered as forming, for purposes of mensuration, the exact medial margin of the orbit. It would appear that the *crista lacrimalis posterior* is a continuation of the primitive orbital margin on the medial side. The lachrymal sac is therefore at first an extraorbital structure, and only with the formation of the new rim margin does it become potentially intraorbital.

Interosseous Muscles of the Hand.

C. R. SALSBURY (*Journal of Anatomy*, April, 1937) records an investigation into the anatomy of the interosseous muscles of the hand. The palmar interossei are inserted, with few exceptions, wholly into the extensor expansions. The first dorsal interosseous muscle is inserted wholly into the proximal phalanx. The other three of the dorsal group have a variable insertion, more frequently into both extensor expansion and proximal phalanx. As a rule, these two insertions are from functionally separate fleshy portions, and this separation may be so complete as to form an extra palmar interosseous muscle. The second dorsal interosseous muscle has a greater insertion into the proximal phalanx than has the fourth, and the fourth has more than the third. The differences in the insertions of the various interossei appear too definite to be of no importance. In a search for the factors underlying them, interest was centred on the lumbrical muscles. Although some evidence might be advanced to support a claim that the position of the lumbrical muscles is the factor responsible, such evidence is not sufficiently convincing. It has been shown that the lumbrical muscles are on the side of the interossei, with the greater insertion into the proximal phalanges. The author accepts this as evidence that the lumbrical muscles do assist in interphalangeal extension, being more highly developed where the dorsal interossei are unable to act on the extensor expansion.

Cor Biloculare.

A CASE of congenital abnormality of the heart is described by F. Davies and M. A. MacConaill (*Journal of Anatomy*, July, 1937), in which there is complete absence of atrial septa and of the proximal bulbar septum. The *septum inferius* is rudimentary. There is atresia of the aortic orifice and only the coronary arteries arise from the diminutive ascending aorta. A small right and a large left superior *vena cava* open into the right part of the atrium. The *sinus venosus* has been incompletely absorbed and the inferior *vena cava* and the two pulmonary veins open into it. Histological study of the conducting system verified the conclusions arrived at concerning the morphology of the different parts of the heart. The authors have examined the early stages in the development of the common pulmonary vein in man, and have stressed the active part played by the pulmonary fold in the separation of the right and left parts of the primitive atrium.

British Medical Association News.

SCIENTIFIC.

A meeting of the Victorian Branch of the British Medical Association was held at the Medical Society Hall, East Melbourne, on August 4, 1937, Professor R. Marshall Allan, the President, in the chair. The meeting took the form of a discussion on the professional problems of general practice.

Common Problems in General Practice.

Dr. G. Winter Ashton read a paper entitled "Common Problems in General Practice" (see page 585).

Dr. C. E. Watson thought that it was a fortunate idea to have the discussion opened by two practitioners whose work was done under conditions somewhat different from those in which Dr. Ashton found himself. He practised in what was somewhat odiously styled a "better-class" suburb, and Dr. Watson worked in an industrial and residential suburb. Their problems were very similar, but there were points of difference. Dr. Ashton had referred to the increasing tendency of patients to be treated in hospitals. If by this he meant public hospitals, Dr. Watson bowed to statistics and agreed; if he meant private hospitals, Dr. Watson could not agree. On looking back over his midwifery figures he had found that of the first hundred confinements for which he had been engaged, thirty nine were conducted in hospital; of the last hundred, fifty. He thought that the increased proportion of hospital patients was due not to a greater willingness to go to hospital, but to an increase in the number of people who could not afford to stay at home and pay the doctor and nurse.

Dr. Watson said that the first great difficulty he had had to deal with was the satisfactory domiciliary conduct of obstetrics. Here was an anomaly, for what was often eminently satisfactory to the patient and her friends could be quite the reverse to the conscientious obstetrician. The standards of obstetrical teaching in the medical school of Melbourne University had for many years been consistently high, and Dr. Watson thought that some of its graduates must occasionally stand aghast at what they had to tackle in private houses, under poor conditions and with insufficient assistance. He himself had found this exceedingly difficult, and had thought that he could do safer work under better conditions. Dissatisfaction was thus attendant upon an entirely satisfactory end result. Dr. Watson saw no immediate solution to the problem. The old type of registered untrained nurse was almost extinct. He pointed out that in his own district the reliable visiting nurses had all reached middle age, and no one seemed to be coming forward to take their places; he saw no reason why any well-trained young woman should voluntarily resign herself to a life of slavery. The problem was not solved by saying that for those who could not go to private hospitals there were the public hospitals. Dr. Watson considered that for many years to come there would be a fairly large number who would elect to have their confinements at home, and he thought that a woman might have a more valid reason than mere "pigheadedness" for her refusal to leave home when her trouble was upon her.

Dr. Watson then passed on to discuss the difficulties of suppressing the commoner infections, such as measles, mumps and whooping cough. He said that the Health Commission published an excellent little book, and one page gave in tabular form the incubation period and school exclusion periods for sufferers and contacts. Dr. Watson wished to know who was going to enforce these recommendations. The school teachers did their best, and though they made some amusing errors of diagnosis, their mistakes were honest ones; but even if they ordered a child home from school they had no power to order it medical examination or to keep it out of the streets. Children with whooping cough in better class suburbs did not vomit in the streets; Dr. Watson admitted that he had seen one or two do so in his district, but he had been left with the feeling that he really could not do anything about it. He said that these experiences had led him to think that the power of the Press, so often extended in the wrong direction, instead of breaking into "scare" headlines about infantile paralysis, would do more in the public interest if it regularly devoted a column to the instruction and admonition of parents whose children might be suffering from one of the minor infections. He considered that no person of decent feeling could contemplate without disgust the activities of the Press during the recent infantile paralysis outbreak. He could not see why the Association could not endeavour to ensure that in times of epidemics of major gravity the Press published nothing beyond what was given to it daily by the Health Commission. He thought that if legislation was necessary it should be possible; but he suspected that the suggestion might spring from his own abysmal ignorance of just what forces came into play when legislation was contemplated. Dr. Watson said that he had mentioned these matters because they had appeared to him to come under the heading of "problems", in so far as they rendered more difficult the general practitioner's task of retaining the public's confidence.

Dr. Watson then referred to the difficulty of obtaining for patients admission to public hospitals. This constituted a most irritating problem to general practitioners. He imagined that in any large factory, if an executive who roamed all over the building was constantly wanted on the telephone, some inquiry would be made as to the time spent by the switchboard operator in finding him. Dr. Watson said that there appeared to him to be a simple remedy. He thought that fifty to one hundred pounds would wire any of the public hospitals, so that when the admittance officer entered any room or ward and pressed a button, a red light would show in the appropriate square on the indicator in the operator's room. He believed that this simple device would go a long way toward saving the hospital the salary of one switchboard operator, and would also save the practitioners in the aggregate some months of time in the year. Dr. Watson said that in addition to the time spent in actually finding the admittance officer, further time had occasionally to be spent in a way which was galling to the general practitioner. He might be made to feel that he was, as it were, dictating a little commentary for solution by the admittance officer, who would assess the admissibility of the patient. The general practitioner's opinion that the patient was suitable for admission should be sufficient, though Dr. Watson said that it must be admitted that the general practitioner had not always played the game. He quoted the case of the general practitioner who succeeded in gaining admission for his elderly patient with acute bronchitis, which at hospital was discovered to be complicated by a fracture of the femur. Yet he thought that one could sympathize with the doctor, who realized that to say "fractured femur" was to spend a long time at the telephone, with refusals all round. Dr. Watson said that the same difficulty had occurred in the past in connexion with hemiplegia, yet few conditions more urgently needed skilled medical and nursing than these two. Dr. Watson thought that the admittance officer should always remember that even such a lowly organism as the general practitioner might conceivably be much his senior in years, wisdom and knowledge. He said that he made no general complaint, for he had in the main been treated with the greatest courtesy and cooperation by the hospital residents. He, however, felt that he must mention with regret the growth of what, for want of a better term, he would call "tone" or "attitude" on the part of certain hospitals. Probably those present at the meeting had their own general hospitals, mentally classified in the order in which they would telephone them if the patient expressed no preference; at one they would feel that the admittance officer was genuinely sorry that he could not take the patient, and that he would do so if he could; at another they could almost visualize him thinking of an excuse for asking them to telephone again a day

or even a week later. Dr. Watson remarked that if this state of affairs really existed outside his imagination, he thought it unnecessary and regrettable. The practitioner did not go to the telephone to advise the hospital courteously of the impending arrival of a new patient; he approached the instrument in a spirit of cringing mendicancy, and Dr. Watson thought that this condition of things constituted one of the problems of general practice. He said that he had referred previously to hemiplegia, and on this subject he must confess that he had read nothing for years, but he had an uncomfortable feeling that more might be done for victims of this catastrophe. He had thought for a long time that there was room for a hemiplegia hospital, in which massage, that was held to benefit the sufferers, could be obtained; or, if that were uneconomical, for wards attached to one of the general hospitals specially devoted to this complaint. He wished to know if it would be possible for practitioners to be circularized with a statement of what domiciliary care the hospitals were able to carry out for their discharged patients, through their almoner departments or otherwise.

Dr. M. Ashkenasy, after congratulating Dr. Ashton and Dr. Watson on their fine exposition of the subject matter, referred to some of the problems and suggested solutions. He spoke first of the problem of the threatened extinction of a large part of private general practice because of the huge abuse of public hospital privilege by the public. The solution of this problem was to insist that patients wishing to go to public hospitals should not be able to do so unless they were able to produce documentary proof of their indigence. Old-age and invalid pensioners should produce their pension books, sustenance workers their cards, basic wage earners their stamp tax receipt books, and small shopkeepers a letter from the general practitioner who was satisfied as to their indigence. Some provision also should be made for those people who needed medical attention of an extensive character and whose means were insufficient. These should have previously discussed the matter with their private practitioner.

Dr. Ashkenasy next referred to the problem of investigation of patients at reasonable cost. He stressed the need for the establishment in key suburbs of centres in which complete investigation could be made at a cost which was proportionate to the pocket of the poor to medium class patients. In such a way patients could be seen by the practitioner and sent for the investigation, after which the result could be sent back to him with the patient. This would relieve the public hospitals of a large number of out-patients, and would tend to conserve the general practitioners' practices. He also opposed the proposals for the formation of dispensaries in key suburbs with facilities for out-patients, as being subject to all those abuses which were at present the bugbear of the public hospitals.

Speaking of the relation of general practitioners with specialists, Dr. Ashkenasy said that while he stressed the importance of the specialist's acting only as a consultant, he deplored the bitterness which seemed to be increasing between these two sections of the profession. He suggested a round-table conference between representatives of both, at which their points of difference could be frankly discussed, and he felt sure that harmony could be reached which would tend to restore the profession to its high moral and ethical standard.

Dr. Ashkenasy next discussed the question of general practitioners acting as clinical assistants at public hospitals. At present they were unable to obtain help in advancing their knowledge because of the way examination of the patients had to be hurried; while the full attention of the seniors was occupied in lectures to students; thus the general practitioners had become glorified clerks. He suggested the arrangement of clinics at the hospitals, both in-patient and out-patient, in such a way that every day one senior honorary would be free to take practitioners with him on his round instead of students. This would result in the general practitioners being satisfied that they were getting the latest views in medical advance, and would tend, by bringing the senior men in contact with the practitioners, to harmonize the profession. Speaking of the problem of patients with hemiplegia, *paralysis agitans* and chronic cardiac disease, who could not at present be placed in public hospitals, Dr. Ashkenasy emphasized the need for the provision of institutions for such patients at a cost which their limited means could stand, and also the need for removal of the word "benevolent" from the names of such places; this suggested a stigma.

Dr. A. P. Derham referred to the responsibility of the general practitioner for some share in the after-treatment, as this was usually desired by the patient and was at times actual medical cooperation with the surgeon. He made the suggestion that, if the operation had been undertaken for a fixed sum, the surgeon who rendered the account might indicate on it that he had reduced the amount by a certain sum to enable the physician to charge for his necessary share in the after-treatment, and that the physician should render a separate account for this amount. Dr. Derham considered that the influence of the Council of the Victorian Branch of the British Medical Association should be used to secure some desirable alterations in the law relating to abortion; the community should also be induced to alter its attitude of stigmatizing illegitimacy. He also advocated an alteration of the lodge agreement, because it was economically impossible to give an adequate service under the existing lodge scheme. Dr. Derham had been conducting a preventive treatment centre for the children of soldiers, and in five years had examined approximately five thousand children. It had been his experience that lodge doctors did not have time to go into the predisposing causes of minor ailments; at the same time most lodge patients did not think it was fair to seek the advice of a lodge doctor about a child who seemed to be well.

Dr. D. C. Roseby said that the three general practitioners who had contributed such valuable material in opening the discussion should all be placed on the council of the Branch, because it was good for those who had been members of the council for a number of years to hear new ideas. He would like to make it clear, however, that the members of the council were quite alive to the difficulties that had been put forward that night. As one who had had much experience with lodge officials on the administrative side, he was sure that the suggestion that more responsibility should be placed on the lodge secretaries would not prove satisfactory. As a rule these men were unable to devote more than a few evenings in the month to lodge work, and the personnel was constantly changing. The enforcement of an income limit for lodge members had failed even in New South Wales. Admittedly it was a burden for medical men to carry on work under the existing lodge agreement. This agreement was the best obtainable at the time when it came into operation, and the problem was to know how it could be improved. The one great difficulty was the apparent apathy of members of the subdivision. It was a heart-breaking business to attempt to get them to attend meetings. He did not share Dr. Ashton's pessimism about the future of general practice; general practitioners would never be eliminated. Inevitably a national insurance health act would come; incomes then would not be much larger, because the number of practitioners would increase. They would continue to be overworked. In England 2,500 insured persons were the share of each doctor (if he employed an assistant), who usually attended in a private capacity the dependants of these insured persons, so that approximately 7,500 people regarded themselves as his patients. A lot of the burdens of general practice were due to the doctors themselves. When a working man restricted his hours of work to a little more than forty a week, Dr. Roseby could not understand why medical practitioners worked for long hours in the evenings and on Saturdays and Sundays. He said that by refusing to do so except in emergencies, he had managed to eliminate this burden from his practice years earlier. He had been surprised to hear from Dr. Watson of the loss of obstetrical patients from the public hospitals. Dr. Watson practised in Moreland and Dr. Roseby in Richmond; he would have

thought that the conditions were reasonably comparable, yet in Richmond he found that the wives of working men went into the intermediate hospitals for confinements and seemed to be able to afford about seven guineas for hospital charges and to pay Dr. Roseby's fee in addition. What Dr. Ashton had said about after-treatment in operation cases had confused Dr. Roseby. Previously he had reached the conclusion that any surgeon who did not carry out his own after-treatment was doing something illegal. He repeated the hope that the practitioners who had opened the discussion would soon become members of the council.

Dr. J. Newman Morris also expressed the wish that the opening speakers would join the council, commenting that Dr. Ashton had brought a freshness of outlook which was needed. Dr. Morris had been through the mill of general practice in country and in town, and in addition had gained experience as a consultant, an administrator and a representative on public bodies. He was well aware of the existence of the difficulties and had given much time and thought to the solution of them. He wished to refer particularly to the question of the admission of patients to hospital, in which a real difficulty was involved. The Charities Board had insisted on a quick turnover at the public hospitals. The beds at these hospitals cost so much to establish and maintain that it was uneconomical to have them occupied by patients suffering from chronic diseases. The position of patients suffering from cerebral hemiplegia had been brought before the Charities Board, which had issued an instruction to the general hospitals that these patients must be helped, but that they should not be held at the general hospital for more than two weeks. During that time arrangements should be made to transfer them to less expensive beds in other institutions. Dr. Morris deprecated any exhibition of pride as an objection on the part of these patients to removal to the institutions at Royal Park and at Cheltenham, which were both very good places.

Dr. W. W. Ostermeyer said that he was agreeably surprised at the subject matter of the opening papers. He had expected diagnostic and therapeutic problems and not professional ones. He voiced his appreciation of the signal meeting they had held that night.

Dr. L. P. Wait drew attention to the fact that at certain intermediate hospitals nursing trainees were dealing with private patients. It was wrong that midwifery trainees should conduct the confinement of patients who had engaged doctors privately to do this work. According to the act, a certificate was required that these trainees had conducted twenty confinements, and the only solution of the difficulty that Dr. Wait could see was that an alteration of the act should be obtained. The nurses should have special training as midwives at one of the public hospitals. Operations for appendicitis were not permitted to be delegated to nurses or to medical students; why should confinements be so delegated? Some patients were aware of this practice, and the time would come when a patient not under the influence of an anæsthetic would object.

Dr. S. O. Cowen said that he was inclined to agree that somebody was needed to keep specialists in order, but the general practitioners had lost a good deal of ground by not always carrying out their functions. He had seen a patient suffering from myxœdema, who had had a laryngeal operation to cure his husky voice. It just was not possible to be a consultant alone; even Sir James MacKenzie had placed it on record that he had found it impossible to keep people from visiting him direct. Sir James MacKenzie had gone to all sorts of lengths to ensure that he saw only referred patients; the fact that a patient had a right to consult whom he wished should not be lost sight of. A certain number of patients refused to divulge whether they had had previous medical treatment; it was not possible to begin an interview with an argument on this point, but it was Dr. Cowen's practice to make some arrangement to communicate with the previous doctor if the information came out in the course of the interview. With reference to the difficulty of the out-patient clinic, he would commend very highly Dr. Ashkenasy's solution, but it was not possible at present to mix post-graduate and undergraduate instruction. Prince Henry's Hospital might solve some of the difficulties in the near future. The individual man in charge of a clinic could do, and did, a great deal to make the work interesting for his clinical assistants. The difficulties between the general practitioners and the specialists were, in Dr. Cowen's opinion, due in a large measure to a lack of understanding on the part of specialists. The large demand on the time of doctors made by public hospital work made it almost impossible to conduct a general practice and to get staff appointments at the hospitals. The acquisition of academic degrees and the taking up of specialties were the high road to staff appointments. At present general practice was a handicap, but, in Dr. Cowen's view, it should be an essential qualification for the consultant specialist.

Dr. F. Kingsley Norris said that that night had been one of the best the Branch members had had for a long time. All the papers were temperate, true and constructive. Members should be informed that the Council had asked for these papers and that they had not been offered by the members concerned. He appealed to the general body of members to take a greater interest in their own affairs, and as honorary secretary of the Branch it was his policy to draw the attention of members to the activities of the council and the attention of the council to the needs of the members. The drawing up of a scale of fees to meet the present situation was under review, and progress had been reported to council. A committee of the council was considering questions concerning its relationship to the members of the Branch. A new building more worthy of the members, and in which there would be room for larger meetings and other requirements of members, was highly desirable, but no portion of the members' subscription was retained as a profit, and no money was available for any such object. The idea of a central bureau for admission of patients to hospital had been rejected some time ago, but it was still possible to try to set it up. He commended the idea of limiting the number of visits to the lodge doctor for a fee of one pound a year. Visits paid in excess of this number would, of course, have to be paid for at a rate to be agreed upon.

Dr. H. Friedman suggested that the members of the British Medical Association should combine in order to prevent nurses from conducting the confinements of their private patients.

Dr. W. S. Laurie said that at times the doctor was called too late, the nurse thus being permitted to take the case in his absence.

Dr. Eric Cooper said that the problem of obtaining admission for patients at public hospitals had been acute for a long time. His solution would be that a single telephone number should be used for all the hospitals. The doctor would then ask for a bed for the patient, and be informed immediately where he should be sent.

Dr. C. H. Dickson thanked Dr. Ashton and Dr. Wait for drawing attention to the anomaly of nursing trainees conducting the confinements of private patients. He suggested that the practice could be stopped promptly if the practitioner refused to break what was virtually a legal contract; if he received any opposition from the management of any particular hospital, he would be forced to tell his patients not to go to that hospital. Dr. Dickson had frequently had to communicate with grand secretaries of lodges regarding the failure of local secretaries to supply lists of names to doctors, and he rather sympathized with the grand secretaries, who were compelled to delegate duties to untrained and unpaid local secretaries. The Auditor-General in a recent report had criticized the lack of adequate supervision in some societies. The medical service provided was a strong "selling point" in obtaining new lodge members, and he did not understand the diffidence of the profession in asking for a more adequate payment for their services.

Dr. Dickson also wondered whether there were not too many branches of friendly societies. In quite a small area a doctor might have anything up to a dozen agreements with different branches, which meant that twelve

different secretaries had to supply lists *et cetera*. Dr. Dickson considered that the profession might be more articulate on the whole question of community health services. He was rather struck with the frequent references in debates in the House of Commons to matters affecting the health of the community, and with the keen interest taken in such questions by Members of Parliament. That could be contrasted with the position in Australia, where health problems, if they were discussed at all, were handled in a very mediocre way.

Professor R. Marshall Allan, from the chair, thanked those who had contributed to the discussion. He said that, in addition to the Branch Council, the Faculty of Medicine was very active in the interest of the profession. The faculty had been considering such important matters as the curriculum and measures to be taken for the limitation of medical students. With reference to the use of intermediate hospitals as training schools for nurses, he was able to state, as Chairman of the Nurses' Board, that the board was against this, but under the act had no means of preventing it. In only two instances were the staffs at these hospitals fully paid, but the board had no power to prevent it.

On the following night Dr. R. G. Worcester was to read an important paper on certain aspects of abortion, and this paper would go forward to the Federal Council of the British Medical Association for consideration. It seemed probable that in consequence something would be done along the lines that had been suggested by Dr. Derham.

Professor Marshall Allan then invited Dr. Ashton to reply to the discussion.

Dr. Ashton, in reply, expressed his appreciation of the sympathetic hearing he had received from those present, and his sincere thanks to Dr. Watson and to Dr. Ashkenasy for the manner in which they had supported him. He was sorry that some members had not quite realized that these professional matters were being discussed. The Victorian Branch news had appeared in The Medical Journal of Australia only since the appointment of Dr. Norris as Secretary. It was an excellent move. He paid a tribute to Dr. Norris for making things move, and hoped they would keep on moving.

A meeting of the New South Wales Branch of the British Medical Association was held at the Royal Prince Alfred Hospital, Sydney, on June 3, 1937. The meeting took the form of a series of clinical demonstrations by members of the honorary staff. Part of this report appeared in the issue of October 2, 1937.

Parasagittal Meningioma.

Dr. R. A. Money showed a female patient, aged thirty years, who had first noticed two months previously that she was dizzy and would frequently bump into objects on her right-hand side. Hallucinations of forms and objects were followed by terrific headaches, of sudden onset and short duration. Continuous neuralgia had been present in the right side of her face and jaws for one month, accompanied by bilateral tinnitus. She had also noticed diplopia on looking to the right.

Ordinary physical examination revealed very little abnormality, except some scalp tenderness near the vertex and slight diplopia on lateral gaze to the right. Papilloedema was present in both optic fundi and the fields of vision showed almost complete homonymous hemianopia to the right, with sharper defects in the lower quadrants. Plain X ray films revealed some doubtful calcification in the left upper parietal region.

Under "Avertin" and local infiltration anæsthesia operation was performed in stages. At the first stage a very large vascular solid tumour was found growing from the edge of the sagittal sinus in the left parietal region. The brain was compressed and under very great tension. A small piece of the tumour was removed for biopsy and the scalp was sutured back without the bone flap.

At the second stage, one week later, the tumour was removed intact. Serious bleeding was encountered from the sagittal sinus, necessitating two blood transfusions during the operation. On this account, and owing to the brain still being very œdematous, the bone was not replaced. Convalescence was uneventful. Since the patient had left the hospital the intracranial tension and brain œdema had subsided. Papilloedema had been replaced by some secondary atrophy, but vision was $^6/_6$ without glasses. The fields of vision had improved considerably.

Angioblastic Meningioma of Temporal Lobe.

Dr. Money's next patient was a male, aged forty-one years, who, nine weeks before his admission to hospital on March 15, 1937, had suffered from an acute febrile illness accompanied by headaches and progressive weakness of his right hand and leg. The right side of his face also began to droop. The fever lasted for about three weeks and then subsided, though the paresis progressed. Six weeks before his admission to hospital he began to have difficulty in speaking, which progressed until he could only utter monosyllables and was aphasic. The patient's wife stated that he had suffered from headaches for years, becoming worse in the last six months, and that he had often vomited.

On examination the patient was stuporose, but seemed to understand what was said to him. Right hemiplegia and aphasia were present. Papilloedema was very pronounced. No other abnormality was found on examination. No fever occurred while the patient was in hospital. The diagnosis seemed to rest between a cerebral abscess, frontal or temporal, or a tumour of the left frontal lobe of the cerebrum.

At operation on March 11, 1937, two drill holes were made in the left temporal region; through which a brain needle was inserted into both frontal and temporal lobes, but nothing definite was found. The holes were enlarged and the dura was opened to make a subtemporal decompression. A small encapsulated tumour extruded itself from just below the surface of the brain, in the region of the superior temporal gyrus. Bleeding was controlled and the wound was closed.

Convalescence was gradual, but parlous. Speech, understanding and sphincter control were regained and the hemiplegia cleared up. The papilloedema had subsided and had been replaced with secondary atrophy with cupping. Macular vision was very poor and less than $^6/_{60}$. The patient appeared to have bilateral altitudinal defect in his visual fields, and he saw best when the fixation point was above the object.

Dr. Money said that the pathology of the tumour was greatly in doubt. At first it was thought to be a metastasis from a hypernephroma or similar tumour, and this best fitted the clinical picture; but no primary growth could be found anywhere, and the tumour was regarded finally as angioblastic meningioma.

Astrocytoma of the Cerebellum.

Dr. Money's third patient was a boy, aged eight years, who had had headache for six months and vomiting for three months. Transient attacks of blindness were noticed for three weeks, and an unsteady gait. On examination the skull was enlarged and gave a "cracked-pot" sound on percussion. Weakness of the left arm and leg was present, and he deviated to the left when walking. There was double optic atrophy. The left eye was totally blind, and there was only faint perception of light in the right eye. Plain X ray films revealed a marked "beaten silver" effect with gaping sutures. A full course of deep X ray therapy was given to exclude the presence of medulloblastoma, but no remission of symptoms resulted.

At operation on March 2, 1937, a large cyst of the right cerebellar hemisphere was found with a mural nodule on the medial side, which the pathologist reported to be an astrocytoma. The cyst was evacuated and the mural nodule removed. Convalescence was slow and was complicated by several attacks of hyperpyrexia, a common occurrence after cerebellar operations. Dr. Money said that there had been no improvement in vision, and it was very

unlikely that any would occur. The fundi were completely atrophied. The patient balanced and walked well and had no headaches.

Hypertelorism.

Dr. Money showed a girl, aged thirteen years, who, ever since her birth, had been noticed by her mother to have a broadening of the bridge of her nose. There had never been any complaint of diplopia, but her eyesight seemed to be affected when playing tennis. There had been no discharge from the nose and there was no interference with nasal breathing.

On examination pronounced asymmetry of the face was seen. The left half appeared to be normal, but the right side of the nasion region was very flat and broad, and the right orbital cavity was displaced outwards. Its medial wall and inner canthus region felt irregular. The right nostril was drawn up and the right nasal bone was splayed outwards. The effect of these deformities was to give a mongol appearance to the patient. Hair grew down to the centre of the forehead. There was an alternating divergent strabismus. The patient fixed on objects with one eye only, images from the other eye being neglected.

Dr. E. McA. Steel reported that there was no abnormality in the nose or naso-pharynx, and Dr. Sear reported on numerous skiagrams that the bridge of the nose was unusually flat, that the ethmoid and sphenoid sinuses were unusually wide, and that the case was one of hypertelorism.

Extramedullary Tumour of the Spinal Cord.

Dr. Money then showed a female, aged fifty-four years, who for twelve months had had constant pains in the lower thoracic and lumbar regions, spreading down to the thighs and buttocks. Later, patchy numbness of the feet and legs and an awkwardness and unsteadiness in walking were noticed. Lately her lower limbs had become weak and were easily fatigued.

When the patient was examined her gait was unsteady and spastic, due to lower limb ataxia, and there was a loss of muscular power. The tendon reflexes were increased and the plantar response was extensor on both feet. There were disturbances of pain, touch and temperature sensations, irregularly distributed below the level of the first lumbar segment, but the sensations of passive position and passive movement were practically normal. Micturition was not interfered with.

The Queckenstedt test was carried out and the fluid in the manometer attached to the needle inserted in the fourth lumbar space rose only very slightly on jugular compression. The cerebro-spinal fluid from the lumbar region yielded a clot on standing. Lipiodol was injected by *cisterna magna puncture*, and was held up at the level of the eighth thoracic vertebra.

Laminectomy was performed, and an elongated, fatty-looking fibromatous tumour was removed from its attachment to the arachnoid in front of the cord at the level of the eighth dorsal vertebra. The pathologist reported this tumour to be a fibroma with a sarcomatous tendency. Convalescence was uneventful and the patient left hospital, walking well, three weeks later. Dr. Money said that on the day prior to her attendance at the meeting she had visited the Lucas cave at Jenolan and had readily negotiated the eight hundred odd steps.

Dislocated Nucleus Pulposus.

Dr. Money's sixth patient was a man, aged thirty years, who had complained of right-sided sciatica of classical distribution of two years' duration. The pain was continuous and no relief had been obtained from any medical or physical treatment. Exercise, coughing and straining caused exacerbations. Injections of "Impletal" into the sciatic nerve had given relief for a few hours only. There was no history of injury to the back.

On physical examination the patient was found to have tenderness along the course of the right sciatic nerve. Lasègue's sign was positive. The right ankle jerk was absent, and the sensations in the foot were dulled. The tonsils were chronically infected. They were removed, but the relief of pain was only temporary, probably being due to rest in bed. Plain X ray films of the spine revealed no abnormality. Five cubic centimetres of lipiodol were then injected into the *cisterna magna*, and the descent was watched under the screen. A hold-up was observed at the level of the disk between the fourth and fifth lumbar vertebræ, and again at the disk between the fifth lumbar and the first sacral vertebræ. Transverse horizontal films taken with the patient lying prone showed notching in the lipiodol shadow at these sites. These procedures increased the patient's pain and produced pain on the left side also. The laminæ of the fourth and fifth lumbar and the first sacral vertebræ were removed at operation. The *nucleus pulposus* of the disk between the fifth lumbar and the first sacral vertebræ was found to be dislocated backwards, with the first sacral nerves stretched tightly over it; the *nucleus pulposus* of the disk between the fourth and fifth lumbar vertebræ was also dislocated backwards, but not to such a degree. Both disks were removed.

Dr. Money said that convalescence was uneventful and rapid, and that no further sciatic pain had occurred. Some lumbar pain and stiffness followed the patient's first attempts at work, but these had disappeared after rest, diathermy treatment and graduated exercises.

Interscapulo-Thoracic Amputation.

Dr. Money's next patient was a man, aged sixty-five years, who was first seen on July 3, 1936, with a very extensive epithelioma covering the entire dorsum of his left hand. The extensor tendons were involved in the growth, and movements of the fingers were limited. Hard fixed masses of glands were palpable in the left axilla, below the left clavicle and above the left elbow. Numerous pre-epitheliomatous areas were visible all over the dorsum of the left forearm.

A complete left interscapulo-thoracic amputation was performed, when the axillary, infraclavicular and supraclavicular glands were all removed as well. Pathological report showed all these glands to be invaded by squamous carcinoma.

Dr. Money said that convalescence was uneventful and that at the time of the meeting no further metastases had been found.

Hydatid Cyst of the Lung.

Dr. Money's next patient was a male, aged seventeen years, who was first seen on October 30, 1936. His illness had started about ten weeks prior to this date with an attack of pleurisy on the right side. The pain had persisted ever since, and so had a dry, irritating cough. On three occasions he had had small hæmoptyses. Physical examination revealed no abnormality, but an X ray film of the chest showed a dense, spherical mass in the posterior part of the lower lobe of the right lung. The honorary radiographer stated that the condition suggested a large hydatid cyst, but that a neoplasm or a dermoid cyst could not be absolutely excluded. There was a positive reaction to the Casoni test. Accordingly the lung was made to collapse and kept down by repeated inductions of artificial pneumothorax. On November 19, 1936, thoracoscopy was performed under local anæsthesia. A large unilocular hydatid cyst was clearly seen at the base of the right lung, with a thin amount of lung tissue over it, and some fine adhesions binding it posteriorly to the parietal pleura.

On December 3, 1936, with the patient under "Avertin" and nitrous oxide intratracheal anæsthesia, first-stage thoracotomy was performed, and portions of the tenth and eleventh ribs were removed in the posterior axillary line. The pleura was not opened, but the two layers were pressed firmly together by iodoform gauze packing and the wound was closed. Two weeks later a large hydatid cyst was evacuated and removed from the lung completely through the area of adherent pleural surfaces. A drainage tube was sutured in and closed drainage was carried out for ten days. Thereafter the wound was allowed to close, which it did on January 11, 1937.

Subsequent X ray films showed the lung to be fully expanded and quite clear, except for slight fibrosis.

(To be continued.)

NOMINATIONS AND ELECTIONS.

The undermentioned have been elected members of the Victorian Branch of the British Medical Association:

Meyer, Moritz, L.R.C.P., L.R.C.S.E., 1937 (Edinburgh), L.R.C.P. and E., 1937 (Glasgow), c.o. Bank of Australasia, Melbourne, C.1.

Woodruff, Philip Scott, M.B., B.S., 1936 (Univ. Melbourne), Royal Melbourne Hospital, Lonsdale Street, Melbourne, C.1.

Medical Societies.

THE MELBOURNE PÆDIATRIC SOCIETY.

A meeting of the Melbourne Pædiatric Society was held at the Children's Hospital, Carlton, Melbourne, on May 31, 1937, Dr. Robert Southby, the President, in the chair. The meeting took the form of a symposium and discussion on rheumatic heart disease and chorea.

The Incidence and Management of Rheumatic Heart Disease.

Dr. H. Boyd Graham referred to the national importance of the subject and to the fact that the preventive aspects both of reduction of the incidence and of amelioration of the complications and the end-results were engaging the attention of the responsible authorities in Australia at the present time. He quoted from the recent survey of rheumatic infections in Victoria, which has since been published in The Medical Journal of Australia (June 19, 1937, page 944). He pointed out that 1·23% of the total admissions to hospital and 2·03% of the total deaths at the general hospitals in Melbourne were ascribed to rheumatic infections. The corresponding incidence at the Children's Hospital, Melbourne, was 2·5% of the total admissions to hospital and 1·71% of all the deaths. In the period of five years to the end of 1936, 567 children had been admitted to the Children's Hospital, of whom 93 had been readmitted in all 120 times because of attacks of "rheumatic fever" or chorea. By comparison with the numbers of patients treated elsewhere in Victoria for the early phases of these rheumatic infections, he stated that it was apparent that the members of the medical staff of the Children's Hospital had far greater opportunities to study these infections than other practitioners in the State, and it was to be hoped that the subsequent speakers would place their views on record freely for the benefit of everyone concerned. He showed statistically that the amount of cardiac involvement while these children were still in the early phases of the disease was so great that the cardiac involvement was the outstanding problem for consideration and justified the use of the term "rheumatic heart disease" in place of the term "rheumatic fever". Dr. Boyd Graham also pointed out that information had been obtained from the records of the Children's Hospital which showed that only 25% of the children in the rheumatic "follow-up" clinics in the out-patient department came from the homes of parents on sustenance or almost out of employment, though 67% of children in attendance in the same department for all causes could be placed in this lowest economic group. It seemed probable that the majority of rheumatic children belonged to the group above this lowest group. Their parents were struggling nobly to retain their independence and to avoid having to accept public assistance; they found it difficult to provide suitable food, clothing and housing for themselves and their children. Dr. Boyd Graham believed that poverty, with attendant poor food, poor clothing, poor housing, overcrowding and absence of holidays was a potent cause of lowered resistance, which was recognized as the predisposing factor in rheumatic infections. The same effect, if not due to economic stress, might be the result of ignorance, carelessness or thoughtlessness. Any cause of lowered resistance might be a predisposing factor and it was generally considered probable that, in quite an appreciable proportion of cases, the tendency to poor resistance might be hereditary. This inherited tendency has been the subject of investigation abroad; it probably consisted of a familial inability to dispose of the products of infection in a normal manner.

Dr. Boyd Graham next presented the modern view of the sequence of events at the onset of rheumatic infection. While it was recognized that the ætiological factors were not yet clearly defined, it was considered extremely probable that, as a result of lowered resistance, infection by a streptococcus occurred; and that this was followed by a latent period of a few days or a few weeks, which in turn was terminated by the appearance of allergic phenomena and exudative lesions, the clinical recognition of which was the condition now known as "acute rheumatic fever". This clinical phase of the infection was sometimes very mild and might not necessitate a visit to the doctor; it was conceivable that it might be difficult to recall to memory after some years had passed. In this way it was possible to account for the absence of a history of the initial attack when a cardiac condition or chorea became manifest as the first recognized evidence of rheumatic infection. It was considered probable by some observers that another streptococcus or a virus participated in the precipitation of the actual rheumatic infection. The illness was by no means over when the symptoms subsided, because there was a multiplicity of proliferative lesions in the muscle and valves of the heart and elsewhere in the body. These proliferative lesions were regarded as the essential lesions of rheumatic infection, and they persisted and were liable to display activity over a long course of years. The submiliary Aschoff cell system was regarded as the characteristic proliferative lesion of rheumatic infection, in contrast with the giant-celled tubercles of tuberculosis.

Dr. Boyd Graham drew attention to the close parallelism between rheumatic infection and tuberculosis, and pointed out that it was useful to recognize it when the rational management of rheumatic infections was planned. Periods of lowered resistance, a tendency to recrudescences of activity and residual damage in each case were indications for lifelong vigilance and care. Like the tuberculous patient, the rheumatic patient should be taught how to overcome the disease and how to minimize its effects, and was likely to benefit from treatment in special clinics and in special hospitals. He said that in this country there was an almost complete dissociation between the management of rheumatic heart disease in the early and in the later stages. The management should be planned to cover the whole course of the disease. He advocated the establishment of a central bureau, through the operation of which the management could be coordinated and integrated. One important function of the bureau should be the collection of dossiers of accurate information about all the pertinent details of the patients' illnesses and progress records.

Dr. Boyd Graham then dealt with the management of the early clinical phase of rheumatic infection in some detail. He said that Murray-Lyon had shown that the duration of the initial acute stage was adversely influenced by a prolongation of the number of days before the patient was admitted to hospital. In the management of the early phase scientific rest for the patient was of the greatest possible value and required skilled nursing and medical attention. Dr. Boyd Graham said that one was not justified in withholding sodium salicylate or, in the event of idiosyncrasy, one of the recognized substitutes. This drug cut short the duration of fever, minimized pain, reduced the exudative lesions and had some sedative effect. In these ways it was distinctly beneficial, though it could no longer be regarded as specifically curative, because it did not stamp out the infection, protect the heart adequately or prevent recrudescences. Considerable clinical judgement had to be exercised concerning the daily dosage; if too little of it was used, the desired effects would not be obtained, but great care had to be taken to avoid salicylate poisoning, which was not a

remote contingency. He considered that the chemical purity of the sodium salicylate and of the sodium bicarbonate was a very important factor in this problem. If the drugs were not first class, nausea, vomiting and the hyperpnœa of salicylate poisoning were prone to appear. In addition to the scientific rest and the administration of sodium salicylate, the nutrition of the patient should be considered carefully; the dietary should be planned to raise resistance and to supply ample nourishment and fluid. While the patient was feverish the free administration of fluids and of milky foods was of great advantage, but no unnecessary delay should be permitted before a varied diet with a high vitamin and mineral content was instituted.

In conclusion, Dr. Boyd Graham emphasized the need that existed in this country for hospitals like those at Carshalton and at Bournemouth in England. In hospitals of this type rheumatic patients should be treated for long periods, when deemed necessary, after manifestations of activity of the infection. Convalescent wards and hospital schools should be provided and progress should be carefully graded and measured. Observation and treatment should be continued at allied centres. The reports of the progress of patients treated in special hospitals and kept under supervision in special centres justified the belief that the acute exacerbations could be minimized by these means; they would be less frequent and less severe; this would, of course, be of great advantage to the patient and, in the economic sense, to the community at large. The "follow-up" system which had been in operation at the Children's Hospital in Melbourne for over two years made use of the almoners as the point of contact with the patients and with the doctors. Though it was cumbersome and by no means ideal, it represented a big advance in the management of these patients, and the children were attending the hospital regularly and were kept under supervision.

Sydenham's Chorea.

DR. STANLEY WILLIAMS contributed to the discussion by describing the investigation of some of the clinical problems of the relationship between Sydenham's chorea and rheumatic heart disease at the Children's Hospital, Melbourne. His remarks were based on a paper published at page 590 of this issue.

The Investigation and Supervision of Rheumatic Subjects.

DR. THOMAS LOWE commenced by referring to A. F. Coburn's observations on the mechanism of rheumatic fever which appeared in *The Lancet*, Volume II, 1936, page 1025. In an endeavour to find out something about the latent phase, Coburn had investigated the development of the antibody response in the blood after hæmolytic streptococcus pharyngitis. At first there was a rise in the amount of complement deviation, and following on this initial rise the deviation subsided and was followed by a rise in antistreptolysin titre and of that of other antibodies. In the rheumatic subjects this development of antibodies was delayed considerably, perhaps a week or two weeks after the normal response. With the development of this antibody response an attack of rheumatic fever occurred, and the greater the delay, apparently the more severe was the attack, within limits. Dr. Lowe mentioned that there was only a poor development of antibodies in infants under the age of two years, and this was an age practically free from rheumatic fever. Coburn had suggested that an abnormal response of antibodies and their reactions with the streptococcus (rather than the activity of the organisms themselves) were responsible for the lesions of rheumatic fever.

Dr. Lowe discussed the question of the "follow-up" system at the Children's Hospital, Melbourne. In 1932 there was no organized "follow-up" of the patients who had been admitted to the hospital with rheumatic fever. Dr. Lowe had investigated the information available concerning 81 patients who had been admitted to the wards in 1932 with rheumatic fever. He could trace only 3 for five years, 9 for four years, 11 for three years, 20 for two years, and 33 for one year. There was little, if any, information on the out-patient record cards of many of them concerning the state of the heart. On the other hand, out of 164 patients in the present "follow-up" system in conjunction with the lady almoner, 90% were in regular attendance and 5% had been transferred to the care of other institutions or medical attendants, but 5% had refused to attend at the hospital. Dr. Lowe then stated that to investigate the efficiency of the "follow-up" system he felt that it was desirable to consider its prophylactic value to the patient and its ability to collect information which was likely to be of value in the study of rheumatic infections. With regard to the former aspect, he said that the mere fact that the patients were brought to the doctor was half the battle. The cooperation of the almoners' department made it possible to arrange for convalescence, home schooling and other matters of social import. In addition, however, it was necessary to establish regular routine procedure of investigation to determine the degree of activity of the infection and the progress of the cardiac condition. For this purpose he thought that periodical laboratory investigations should be carried out. The sedimentation curve could be expected to act as a guide to the degree of activity. Electrocardiograms might give early evidence of progressing heart muscle damage. Radiographic pictures of the heart taken at a distance of six feet with an exposure of three seconds, and combined with a "barium swallow", would establish a record of the shape of the heart and the outline of the individual chambers. The growth of the size of the heart with the growth of the child was a complicating problem, but it was not so important as the relative size of the individual chambers in rheumatic heart disease. In addition to these investigations, Dr. Lowe thought that possibly some investigation of the antibody response should be undertaken. With reference to the other aspect—the collection of information of general value—Dr. Lowe thought that some organized attempt should be made to obtain as complete a history as possible of the antecedent state of the patient. He suggested that a separate sheet might be placed in the ward history notes as a *questionnaire* requiring direct answers. The fault in the present system was that, though positive findings were noted, there was no evidence that the negative findings had been the subject of inquiry. Some of the questions which Dr. Lowe suggested as suitable for affirmative or negative answers in respect of each patient, related to: the past history of rheumatic fever or chorea; the family history of either of these conditions; the past history of scarlet fever, sore throat or other lesions suggestive of streptococcal infections; the past history of other illnesses; and questions concerning the economic conditions and surroundings of the patient in his home life.

The Pathology of Rheumatic Fever.

DR. MORRIS C. DAVIS gave a brief outline of the pathology of rheumatic fever and illustrated his account with many photomicrographs. He expressed conviction that the recognition of the Aschoff nodule as the specific lesion had led to the neglect of many of the other pathological manifestations of rheumatic fever. Dr. Davis emphasized the occurrence of lesions of a less specific character, and illustrated his remarks by photomicrographs of these lesions, which showed that they were distributed very widely throughout the body.

Dr. Davis concluded by pointing out the possible application of this concept in the recognition of bizarre clinical types of the disease. The lesions were really generalized and remained active for many years; if an attack of bronchitis could be recognized as rheumatic in origin because it was associated with unusually rapid heart action, for example, prophylactic measures might be instituted which would have the effect of minimizing the damage to the patient's heart.

DR. CLIVE FITTS said that he had followed up the case histories of patients with rheumatic heart disease in a way that was rather different from that outlined by the previous speakers. He had taken every case regardless of the age of the patient, and had not only followed it

up, but had also followed it back. He had attempted to peruse every record of admission of the patient to a hospital, irrespective of the purpose for which the patient had been admitted. In these records he searched particularly for any evidence of the state of the patient's heart, and the information gained in this way was not irrelevant. At times he had come across valuable data about obscure manifestations of the disease. As so many patients had rheumatic disorders of the heart without an antecedent history of an attack of rheumatic fever or chorea, Dr. Fitts felt that insufficient stress had been laid upon the difficulties of diagnosis. It might be easy to diagnose the presence of cardiac rheumatism in a woman of thirty years of age, but the satisfaction was tinged with melancholy. It was a matter of grave responsibility, and at times of extreme difficulty, to diagnose the presence of the heart affection in a child who was about to leave the Children's Hospital for the after-care home after admission for an atypical attack of rheumatic fever.

Dr. Fitts said that for four years he had been studying cases of rheumatic heart disease. In the earlier part of this period he had been a resident physician at the National Heart Hospital in London, and for the past two and a half years he had continued these studies in Melbourne. With the aid of the lady almoners and the district nurses he had kept in touch with a large number of patients who had manifested recent activity of infection. In this way he had supervised his patients along the lines that had been suggested by him that evening. He could only say that, though his experience had been instructive and of interest, it had also been very depressing. Dr. Fitts could not agree with those who regarded the disease as one in which there were periods of exacerbation (with consequent ease of diagnosis and supervision) and periods of quiescence and latency of infection. In his view the disease was insidious and indolent, but it went on progressively week after week and month by month. Heart signs, leucocyte counts, sedimentation rates and numerous other factors had to be taken into account.

Finally Dr. Fitts referred to treatment with salicylate. He said that he had been taught by Dr. Maurice Campbell at the Heart Hospital that no patient should be allowed up until he had been afebrile for a week without salicylate; further, he should not be given salicylate as an out-patient. There was little reason to support the view that salicylate had any beneficial effect on the heart; this had not been claimed by Maclagan, who had introduced it. That it masked the temperature and lulled the clinician into a deceptive security concerning the activities of the disease could readily be shown.

Dr. F. V. Scholes said that he had been extremely interested in the presentation of the subject by the previous speakers. He intended to make a few observations on the ætiology and on what took place in the early years. Poverty and dampness went together, and it was not the destitute children, but those who lived in poor homes on the working-man basis who were prone to be infected. These people lived in gimcrack houses in badly chosen localities. The children often had a long way to go to school, but were obliged by the law to attend. He agreed with the man who had said that the headmaster of any elementary school who had 100% of attendances should be prosecuted. Many of the children were poorly shod, but had to sit in school all day with wet feet. He agreed with what Dr. Lowe had said about the rheumatic child having a different method of dealing with a streptococcal infection from that of the normal child; but he thought that there was another immense factor—the rheumatic child was infected by a different type of streptococcus. If a child was infected by a toxigenic type first, scarlet fever or a streptococcal sore throat was manifested and antibodies were manufactured. If, on the other hand, the child got the less toxigenic type of infection, there was a slower development of antibodies. Those children infected with the Griffiths Type IV streptococcus who suffered from scarlet fever had a poor rash or none at all. If such children suffered from the toxigenic type of infection subsequently, they suddenly manifested acute nephritis and other severe complications. The child in this case was not putting up anything of the nature of a fight against the toxigenic type of streptococcus. Dr. Scholes expressed the opinion that clinicians had been wrong in getting into the habit of considering rheumatic fever or chorea as different essentially from other streptococcal invasions; there was no great need to make this differentiation; he regarded the rheumatic infections as merely different manifestations of the common streptococcal infection. So far as treatment was concerned, he had not seen anything in the course of his work which stopped the progress of the infection. He considered that every effort should be made to stop children from getting sore throats. If they showed evidence of infection, it was of the greatest value to place them in an institution where the supervision and management would be properly carried out.

Dr. Eric Cooper considered that all these patients should be regarded as sufferers from disease of the heart which was likely to prove chronic and to be associated with other manifestations in addition to those of the heart affection. They required special schools and special hospitals for long periods. The period could with benefit be extended far beyond the average time that the patients spent at Carshalton at present. It was recognized that Coburn's patients who were transferred from New York to Porto Rico had recurrences on their return to New York. It would appear necessary in this country to send the patients to north Queensland and to keep them there. They would in an ideal scheme have to live there permanently. While agreeing that the rheumatic diathesis was more common in red-haired people, Dr. Cooper made the point that it was not only these people who had the diathesis. Dr. Cooper then mentioned that certain difficulties would have to be overcome in following up by radiography the variations in the shape of the heart over the years when the subjects were young children. It should not be forgotten, for example, that the normal shape of the heart of a child seven years of age was very similar to the shape which would be regarded as abnormal in the case of an adult.

Turning his attention to chorea, Dr. Cooper asked Dr. Williams if any of the patients studied by him came under the types known as "paralytic chorea" or "maniacal chorea". In the former type hypotonia and aphonia could be so extreme that the patient was unable to exhibit any movements or vocal sounds, and the diagnosis of chorea might be made only at a late stage, when recovery had commenced. Patients with maniacal chorea might be impossible to nurse in bed. He had heard of instances in which the patients were so severely affected that they were placed on mattresses on the floor in rooms stripped of all furniture. In such cases ordinary sedative methods failed, but he believed that some measure of control had been obtained by the intravenous administration of massive quantities of barbiturates. Dr. Cooper commented on salicylate treatment in acute rheumatic infection. He said that sometimes the temperature was not brought down when they were used, and, judging by progressive estimations of the erythrocyte sedimentation rate and other clinical evidence, salicylates had no effect on the course of the disease. At times he wondered whether they had any real place in the treatment of these infections. It was known that sometimes satisfactory results could be obtained with acetyl-salicylic acid and other forms of salicylate therapy when sodium salicylate was not tolerated well or was not found effective.

In conclusion, Dr. Cooper considered that, in view of the morbidity of these infections, it was important that the "follow-up" system at the Children's Hospital should be correlated with the further progress of the patient at a general hospital. He regarded this as an important suggestion, and thought that the establishment of a central office, mainly run by the hospital almoners, would help considerably to bring about this improvement on the present system.

Dr. F. Kingsley Norris said that the symposium presented that evening was valuable. He thought that Dr. Boyd Graham had been liberal in his estimate of the amount of rheumatic infection seen in private practice.

Personally he saw practically none, and the same applied to the practices of many of his acquaintances. Dr. Boyd Graham had advocated milky foods for these patients in the acute phase of the illness; Dr. Norris thought that there was a fetish in favour of this class of food; in his experience many feverish people could not look at milky foods without a feeling of repulsion. He thought that persistence with them led to a prolongation of invalidity. He was not in favour of keeping the patients on a low diet, and the dietary should not be restricted if it was at all feasible to maintain them on a fully nutritious diet. It was of importance to remember that a state of anæmia was almost invariably present. Treatment with sodium salicylate was a potent cause of anorexia. Dr. Norris was in the habit of withdrawing salicylates as soon as he could. He took this action as soon as the temperature came down. If the temperature did not come down, he doubted whether the cause of the prolonged pyrexia was rheumatic infection. Dr. Norris commented on Dr. Lowe's references to rheumatic diathesis. Everyone with experience of these patients recognized the problem of the only red-haired child with grandmother living in the house. This problem was difficult to handle with satisfaction to everybody. Dr. Norris voiced a note of warning about the reliability of the sedimentation test. He thought it was a very unreliable guide, because it was not standardized and slight variations in the conditions under which it was carried out produced such wide fluctuations in the ultimate findings. Dr. Norris would have liked to hear from Dr. Williams something about the relationship between tonsillectomy and rheumatic fever and chorea. He had also failed to raise the question of hemichorea. Dr. Norris stated that one of his teachers had told him that patients with hemichorea had no cardiac involvement. Dr. Norris had always carried this dictum in his mind, and he could remember only one case in which it had not proved reliable. Dr. Norris next expressed his appreciation of Dr. Davis's valuable work on the pathology of rheumatic heart disease, evidence of which he had given that evening. Dr. Norris was glad that Dr. Boyd Graham had approached the subject from the national point of view and not as a parochial problem. Members would be interested to know that the Victorian Society for Crippled Children had recognized medical crippledom and made provision for the inclusion of rheumatic cripples and other medical cripples as participants in the benefits obtainable through the society.

In conclusion, Dr. Norris emphasized the desirability for standardization of medical work for those afflicted with rheumatic infection. The histories could be taken in a standard manner and the "follow-up" systematized. It should be recognized that the problems were not parochial, but national and even international, and the information accruing from standardization and organization in one country, when collected and published, would prove of value to those studying the disease in other countries. If in any way his department at the Alfred Hospital could fit in with the work at the Children's Hospital, he was quite willing to give every assistance and would like all the clinicians to work along the same lines. He was aware that some of the patients migrated from one hospital to another, and this could not be prevented. If a central bureau existed and standard histories were taken, it would be possible to trace these wanderers and hold them in check. In every way this organizing work was to be commended and was worthy of being done.

Dr. Ian Wood said that a lot of evidence had accumulated in favour of the streptococcal involvement in rheumatic infection, though the actual cause was still a mystery. He was thoroughly in accord with all the details of the scheme for the management of these conditions, which had been mentioned in the discussion. The great work of Mackenzie was encouraging in this respect. At the same time care would need to be taken to avoid the possibility of a rheumatic neurosis creeping into the minds of the public. It was at times difficult for a practitioner to say positively that a child was not suffering from rheumatic heart disease, and uncertainty in the matter was alarming to the parents. The presence of an audible systolic murmur did not necessarily mean heart disease. Doctors should be careful not to limit the activities of a child unnecessarily, and should be cautious about starting a condition of neurosis. With reference to chorea, Dr. Wood agreed that the large group was due to rheumatic infection, but there was a small group that was not definitely allied to this infection. It contained children who were slightly mentally deficient or who were suffering from some other affection of the nervous system. In cases of chorea which were rheumatic, clinicians should not over-estimate their ability in giving the patients treatment. In the latest edition of Robert Hutchison's well-known book of lectures the author adhered to his advocacy of treatment by rest in bed only; except in the uncommon maniacal type, he did not use salicylates or any sedatives; the patients progressed favourably and were far more comfortable without these things; nausea was avoided and the children had no worried expressions on their faces. Dr. Wood expressed the opinion that the vast majority of these patients were managed better in beds in the general wards than when isolated in dark rooms. He did not see any necessity to browbeat them in an endeavour to make them keep absolutely still.

Dr. J. W. Grieve thought that it was a very instructive point to realize that rheumatic infections occurred most commonly among people on the basic wage. It was his experience, too, that in private practice the number of patients he had seen with these conditions was comparatively small, and that of those seen by him a large proportion had been referred by him to the public hospitals and came from unsatisfactory homes. Dr. Grieve concurred in the opinion that the purity of the salicylate used was an important factor in avoiding trouble with it. In the wards at the Children's Hospital they had had catastrophes. On several occasions, when a large number of the children had been vomiting after salicylate, they had changed across to another preparation and the amount of vomiting had been materially reduced. Recently four or five children had shown alarming symptoms of salicylate poisoning, and one child had died. It was of interest to recall that hyperpnœa and not vomiting had been the first indication of the poisoning.

Dr. Grieve had found Dr. Lowe's remarks stimulating and suggestive; he had been particularly interested in the summary of recent work, and especially in that of Coburn. Dr. Grieve agreed with the suggestions that had been made for improvement of the "follow-up" scheme at the hospital. He said that he would like to refer to the point Dr. Williams had made about the presence of diurnal fluctuations of temperature in patients with chorea. Some years had elapsed since Dr. Grieve had noticed Leonard Findlay's statement that the occurrence of pyrexia in a patient with chorea should be used as a warning to review the diagnosis. Dr. Grieve had been watchful since he noticed this statement, and was in a position to affirm that a small but definite proportion of these patients had a temperature chart similar to that demonstrated by Dr. Williams. He considered that when this happened the patient had a much bigger risk of developing carditis. Choreiform movements occurred in diseases other than rheumatic infections. Dr. Grieve remembered a child under four years of age, with movements which could not be differentiated from those of ordinary chorea and which had persisted for two weeks; then the condition had changed and, when lumbar puncture was performed, it was established that the patient was suffering from tuberculous meningitis. Dr. Grieve next referred to patients with recurrent attacks of chorea. Some of these patients came into hospital each year for three or four years in succession and the heart involvement could not be detected; yet subsequently some of them had developed rheumatic fever and carditis. Dr. Grieve was of the opinion that, in children, sodium salicylate in adequate dosage controlled the pain and the temperature at the onset of an acute attack of rheumatic fever, but the dose used affected the situation considerably. Like Dr. Cooper, he considered that, in adult work, salicylates often appeared not to have any effect. He had seen patients with chorea of the maniacal type, but the number was

extraordinarily small in comparison with the common type. He stated that he found himself in agreement with the views expressed by Dr. Ian Wood concerning the management and over-sedation of the common type of patients with chorea.

Dr. John O'Sullivan expressed the opinion that the radiographic control of the size and shape of the heart in children suffering from rheumatic infections would be of great clinical value. The objections that had been raised to the employment of the method on the ground that in young children it was difficult to differentiate between the normal and the abnormal could be overcome by having a series of normal healthy children as controls. Referring to the question of treatment of tonsillar infections in children suffering from rheumatic conditions, Dr. O'Sullivan emphasized the value of X ray therapy as a successful method of treatment. Its employment was based on the atrophy of lymphoid tissue following on its exposure to X radiation.

Dr. O'Sullivan stated that in a recent article Carreras and Bosch Sola, of Barcelona, had published a report of a series of 147 patients treated by this method; the benefits of the treatment were manifested by the disappearance of the infection and the diminution in the size of the lymphoid tissue. The treatment consisted in the application of small doses of high voltage radiation applied to each tonsillar area, two or three times a week, for a period of two or three weeks. There was no risk of any kind to the skin or other parts of the patient. The method was free from the risks of anæsthesia (which was of particular importance in patients with cardiac involvement) and also the risks associated with surgical removal, such as hæmorrhage, shock and metastatic infection (for example lung abscess), were eliminated.

Dr. A. P. Derham said that he was fascinated by the contribution that Dr. Scholes had made to the discussion. Perhaps the secret was hidden in the ideas that he had voiced. Dr. Norris, too, had spoken with his usual succinct breeziness. Dr. Derham agreed with him about salicylate treatment, but thought that he could go further and state that in full dosage salicylate could do harm. Dr. Derham remembered in particular two children who were obviously going to die; the salicylate treatment was stopped in each case and, though one of them died, improvement commenced in the other patient from the hour of stopping the salicylate. Dr. Derham frequently found himself advising his house physician to reduce the salicylate by half. He had found it helpful at various times in his professional work to act on the old aphorism: "When you are doing something and all is going wrong, stop doing it." Dr. Derham also concurred in the views expressed by Dr. Norris on the need for keeping up the nutrition of these patients with rheumatic infection; the point had been of very great value in the case of a patient who had evaded his meals until a sterner nurse insisted that he should eat them; this incident in the management had proved the turning point to recovery. Dr. Derham referred to Dr. Cooper's suggestion that red-haired children were specially prone to rheumatic infection. He thought that the typical rheumatic child in Victoria was not the real red-haired child, but the child with a sandy complexion, a freckled face, pale skin, blue-green eyes and flabby, atonic muscles. After discussing the streptococcal rôle in ætiology and the mechanism of superimposed subacute bacterial endocarditis, Dr. Derham said that growing pains were not always suggestive of the rheumatic diathesis, and in his opinion were associated more with arthritis, fibrositis and rheumatoid conditions than with real rheumatic fever or rheumatic heart disease.

Dr. D. M. Embelton, after expressing his appreciation of the preceding discussion, said that he had intended to contribute some statistical information, but would refrain in view of the information which had been collected and presented by Dr. Boyd Graham. Such statistical statements were always of interest, and when they referred to a period of years were of exceptional value. Dr. Embelton had never liked the idea that rheumatic infections were due to a specific rheumococcus, but rather believed that they depended on the resistance of the child to infection. He too was convinced that the patients came largely from the better class artisan group of the community. He had been in practice in a prosperous residential suburb and had had no patients suffering from this disease; in the better class industrial suburb in which he was engaged in practice nowadays he saw quite a number of patients with these complaints. Infection was related to resistance, which depended on diet and living conditions. Dr. Embelton thought that one advantage of giving extra milk was the automatic reduction of carbohydrate food, which tended to be excessive in the dietary of this class of patient. In the course of his work at the out-patient department at the Children's Hospital he had seen a number of children who displayed irritability and restlessness associated with sore throats and other minor complaints, but had not manifested florid evidence of rheumatic infection. He regarded them as suffering from some infection and treated them by attempting to raise the resistance. If the resistance to infection could be improved, they escaped rheumatic heart disease. He believed that nutritional guidance was of definite value to them. In his clinic he did not give salicylates; he wished to avoid masking of symptoms; the children in attendance had quiescent symptoms only. Dr. Embelton proceeded to emphasize the national importance of the subject. He quoted Sir George Newman's statement that half the deaths from heart disease and 4% of the total deaths were due to rheumatic infection. The profession was becoming more conscious of its national responsibility to reduce morbidity and mortality, but the organization in this country was still far from perfect. Dr. Embelton had always felt that it would be very much better to hand over the patients with rheumatic infection to a special rheumatic fever clinic, because the work would then be coordinated and was likely to have more satisfactory results. In conclusion he expressed the hope that the work of organizing a rheumatic clinic would prove successful and that one for adults would also be established in close association.

Dr. Robert Southby, from the chair, expressed his gratification with the standard and value of the discussion. He emphasized the importance of correlating the histories by referring to a young adult who, at the age of eight years, had been in the care of the Children's Hospital with rheumatic heart disease, but after discharge from hospital had not returned to the out-patient department, but had been attended by the lodge medical officer for five years. Since then she had been treated at Prince Henry's, the Alfred, the Royal Melbourne and Saint Vincent's Hospitals. From the age of sixteen years she had been receiving the invalid pension. She was now twenty years of age and had been educated for two years only. He called upon those who had opened the discussion to reply to any points raised.

Dr. Boyd Graham thought that the only controversial point to which he need refer was the use of milk foods in the active stage. He was in accord with Dr. Norris and others who had advocated ample feeding, and if it had appeared to any that this was not the case, he wished to clear up the misconception.

Dr. Lowe said that he had used the term "different immunity response" in distinguishing between the serological findings of rheumatic and non-rheumatic patients because this was the term that Coburn had used. With reference to the sedimentation test, he did not think the position was as gloomy as Dr. Norris had made it out to be, though he admitted that the test should be carried out under standard technique; when the conditions were standardized he considered it a valuable comparative test of activity of infection.

Dr. Williams was not able to give Dr. Cooper any assistance concerning paralytic chorea, which he found it hard to imagine, or with maniacal chorea, which was a most distressing disease. He thought that there must be some improvement in the management of chorea. Even Sydenham had recognized that it was an obstinate condition, for in the course of his original description of the condition he had advised that the patient should be "bled and purged for twelve months".

Dr. Reginald Webster, who was obliged to leave the meeting in its early stages, subsequently forwarded his intended contribution to the discussion. He assumed that those present were not at the moment interested in the gross morbid anatomy of rheumatic fever, particularly the end results, many specimens illustrative of which he had collected in the pathological museum at the Children's Hospital. He gathered from the general discussion that the two vital questions were those of ætiology and a long-range scheme of surveillance. The second question mentioned scarcely came within his province, but the pathogenesis of rheumatic fever had always interested him, and it was undoubtedly a very perplexing problem.

Clinical evidence, the importance of which he did not wish to deprecate in the slightest degree, suggested very strongly that rheumatic fever was a manifestation of streptococcal infection, but in spite of strong clinical suggestion the chain of bacteriological evidence was, in his view, still lacking in important links. Streptococci without doubt had frequently been recovered by blood culture of subjects of rheumatic fever, the figures of one worker (Clawson) being 50% positive results in respect of the cultivation of streptococci from the blood. But one read of a long series of 5,233 routine blood cultures in a diversity of diseases, ranging from pernicious anæmia to pyelonephritis, carried out at the Mount Sinai Hospital, New York, in which streptococci were recovered in 6% of the total. In another group, comprising acute rheumatic fever, chronic rheumatic cardio-vascular disease, and rheumatoid arthritis, the proportion in which streptococci were recovered from the blood was also 6%.

Dr. Webster found another difficulty in the fact that there was no homogeneity in the streptococci recovered by blood culture; they were admittedly a heterogeneous group, although one important feature common to all was the fact that they were non-hæmolytic. Dr. Graham had drawn attention to the analogy between rheumatism and tuberculosis, in which the Aschoff submiliary nodule was regarded as the counterpart of the tubercle. Under such a conception, which appeared to have gained wide acceptance, Dr. Webster considered that streptococci should be demonstrable occasionally in the Aschoff bodies; there was no particular difficulty in detecting tubercle bacilli in the tubercle follicles or giant cell systems. Dr. Webster recollected an occasion in his experience at the Children's Hospital on which he had cultivated a non-hæmolytic streptococcus from the blood of a child suspected of subacute bacterial endocarditis. The boy was known to have chronic rheumatic carditis, and so much was confirmed at autopsy. There was no evidence, however, of subacute bacterial endocarditis, and this condition, if present, could scarcely be missed. Bronchopneumonic lesions were present in the lungs, and it was concluded that they provided the entry for the streptococcus to the blood stream. Since that experience he had often wondered whether the streptococci recovered from the blood in the acute phase of rheumatic fever might not have had a similar extraneous source. The myocardial involvement and consequent pulmonary congestion at this period must favour the initiation of activity in the lung tissue of bacteria not necessarily related to the rheumatic fever.

On the question of the relationship of chorea to rheumatism, Dr. Webster thought that significance attached to the fact that Aschoff bodies had never been demonstrated in the brain in chorea. The distribution and histological characters of the lesions in chorea resembled very much those of epidemic encephalitis. If the anatomical basis for chorea were a meningo-encephalitis due to the same infective agent as operated in rheumatic fever, he could not understand the absence of cells from the cerebrospinal fluid in chorea. The failure to find Aschoff bodies in the brain tissue in chorea had been explained on the ground that there was no connective tissue as ordinarily understood, in other words no fibrous tissue, in the brain. It might still be expected, however, that the meninges would react by the formation of Aschoff bodies. In conclusion Dr. Webster stated that he did not wish his remarks to be considered as argument against the clinically based theory of streptococcal infection so much as a statement of his own difficulties in the matter.

Obituary.

FELIX HENRY MEYER.

We are indebted to Dr. H. Boyd Graham for the following account of the career of the late Dr. Felix Henry Meyer.

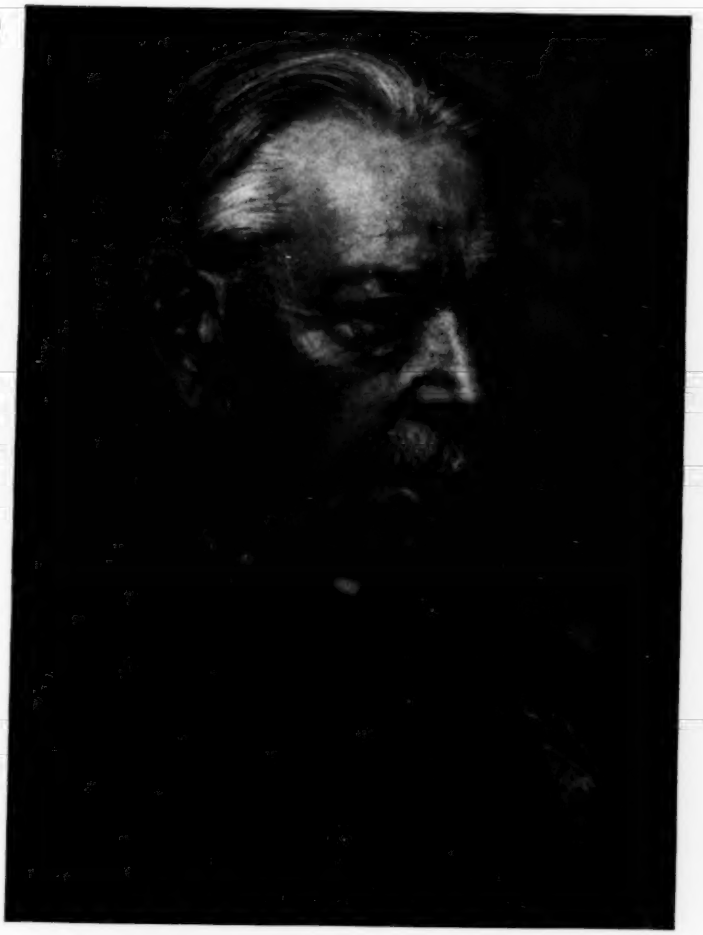
Felix Henry Meyer, a recent portrait study of whom, by Dr. Julian Smith, is reproduced with this issue, died on August 31, 1937. He was known far and wide not only as a distinguished member of the medical profession, but as a man of culture in art and literature. He was to have delivered the Stawell Memorial Lecture next month and had almost completed the preparation of the address at the time of his death.

He was born at Melbourne on June 19, 1858. His father, Menk Meyer, arrived in Melbourne in 1853 from the United States of America and took out naturalization papers as a British subject under the then Governor of Victoria, Sir Henry Barkly. His mother was formerly Miss Rebecca Fink. His early school days were spent at the school of James Bonwick, the historian of Port Phillip Settlement. It was located at that time at Carlton House, Robe Street, St. Kilda; but, while Meyer was in attendance, it was transferred to Hofwyl House, near Village Bell, St. Kilda. In 1866, Felix Meyer went to the St. Kilda Collegiate Academy, the principal of which was William Thomas Pegus. A schoolfellow was Samuel Alexander, who became the professor of philosophy at Victoria University, Manchester, England. In 1872 Meyer went to the Flinders National Grammar School, Geelong. The headmaster of this school was E. R. Lennon, and the staff included Dr. J. P. Wilson, later the distinguished principal of the Presbyterian Ladies' College, Melbourne. At Flinders School, Felix Meyer gained one of the eight State school exhibitions and passed the matriculation examination in 1872. In the following year he commenced his studies at Wesley College under Professor Irving. He was *dux* of the college in 1875, winning the Argus Prize and the Draper and Walter Powell Scholarships. Among his contemporaries at Wesley College under Irving were Alexander, Springthorpe, Muskett, Syme, William Sutherland and E. M. Moors. That year, at the matriculation examination Felix Meyer won the exhibition in classics and the exhibition in English, French, history and geography, and was *proxime accessit* for the exhibition in mathematics, which was won by William Sutherland, also of Wesley College.

Entering on the medical course at the University of Melbourne in 1876, Meyer gained the exhibition in first-year medicine with second-class honours. In 1879 he won the fourth-year medicine exhibition with first-class honours and in 1880 passed the final year with second-class honours for the qualifying degrees in medicine and surgery. In 1902 he obtained the degree of Doctor of Medicine with a thesis on the subject of menstruation and its abnormalities. Late in life he became a Fellow of the Royal Australasian College of Surgeons.

On June 4, 1880, at a meeting of medical students convened by Felix Meyer and T. R. H. Willis, it was resolved to form a medical students' society, and J. W. Barrett was the first secretary. Among the original members were F. D. Bird, W. Moore, C. J. Shields and G. A. Syme. The first meeting of the society was held on July 1, 1880.

After a short period as resident house surgeon at the Melbourne Hospital, Felix Meyer was appointed sole resident medical officer at the Lying-in Hospital (now known as the Women's Hospital). Though the institution was opened on August 19, 1856, there had not been any course of training for nurses. Felix Meyer established the course in 1881 and founded *Una*, the first journal for nurses; he edited it for five years and contributed frequently to it afterwards. He also initiated clinics for medical students at the hospital. He was not only an able teacher, but a valued friend of students and nurses. He resigned from the post at the Lying-in Hospital in April, 1885, and started in private practice at Warwick House, corner of Drummond and Grattan Streets, Carlton, in close proximity



to the hospital. On his retirement the nurses and the patients presented him with "a very valuable obstetric bag", according to *The Speculum*, the organ of the Medical Students' Society, "filled with every requirement that an obstetrician is likely to have need of". The presentation, which was accompanied with an illuminated address, was made by the matron of the hospital.

His private practice as a specialist in diseases of women, started in Carlton, was conducted in Collins Street actively until he retired in 1935 with a proud record of fifty years of service to the community. In 1887 he was appointed senior indoor obstetrician and in 1891 senior indoor gynæcological surgeon on the honorary medical staff of the Women's Hospital. He occupied the senior position until he retired from the staff in 1918, after thirty-seven years of most valuable service to the hospital. Throughout this period he made the teaching of students an inseparable part of his work. In the dual capacity of indoor and outdoor gynæcological surgeon he held classes of instruction twice a week. As indoor surgeon only he had a regular clinic in the wards on one afternoon a week, with complementary tutorial instruction in the theatre on the following morning. During Dr. Rothwell Adam's absence in Europe in 1906 he lectured for a year on obstetrics and gynæcology, and from 1914, when he was appointed to succeed Dr. Adam in this lectureship at the University of Melbourne, he occupied the position with distinction for six years.

Dr. Felix Meyer was President of the Victorian Branch of the British Medical Association in 1894, before the union of that young branch with the older Medical Society of Victoria. In the thoughtful address which he delivered on December 19, 1894, as the retiring President, we may find a summary of then recent advances in medicine, the new bacteriology, serum therapeutics, Koch's tuberculin, and special references to gynæcology, with a plea for conservatism in the application of surgery to gynæcological problems. From the preventive aspect he deplored the arrival of the "newer woman", with her "mannishness", the invalidism due to faulty obstetrics and the ignorance of the "self-styled midwife", and he pointed out that the greatly diminished mortality in lying-in hospitals had been brought about largely by the introduction of "a rigorous antisepsis" and "an increase of cubic space for the individual patient". He proposed to counter the "element of sexual psycopathy" arising from recent types of novels by the inclusion of elementary physiology and anatomy as "essentials in the education of the youth of both sexes". He welcomed the appointment of Dr. Gresswell to the position of chairman of the Board of Health, and attributed the remarkable diminution in the mortality from typhoid fever and from diphtheria to the energy and perseverance that Dr. Gresswell had displayed as medical adviser to the board. In passing, it is of interest to note that Dr. Gresswell was the retiring President of the Medical Society of Victoria and a member of the Council of the Victorian Branch.

In 1893 Dr. Meyer was appointed by the Victorian Government to represent the State at the International Medical Congress held at Rome, and in that year and in 1910 he acted as the representative of the Victorian Branch of the British Medical Association at annual meetings of the Parent Body held at Newcastle-on-Tyne and at London respectively. He acted as secretary to the Section of Obstetrics and Gynæcology at two sessions of the Australasian Medical Congress, and was an office-bearer at a number of other sessions.

In 1916, at the request of the Council of the Victorian Branch of the British Medical Association, Dr. Felix Meyer created the Board of Examiners for the State Certificate for Midwifery, was its first chairman, and served on the board for many years. He acted as a member of the Committee for Obstetrical Research during its activities. A member of the Faculty of Medicine, he was an examiner in obstetrics and gynæcology for medical students.

He performed the first panhysterectomy for uterine myoma at the Women's Hospital, and the first two Cæsarean sections were done there by him and by M. U. O'Sullivan. As far back as 1893 he introduced to Melbourne the conservative surgery of the uterus, ovaries and tubes by such operations as myomectomy, resection of ovaries and salpingostomy.

In addition to reviews and reports of cases he published in medical journals a number of papers including those on the obligations of gynæcology to obstetrics, the uses and abuses of curettage, the conservative surgery of the uterine appendages, menstruation and its abnormalities, abdominal pregnancy, *chorea gravidarum*, uterine hypoplasia and anteflexion, artificial termination of pregnancy, and the after-effects of chronic salpingitis. At Brisbane, in September, 1932, he delivered the Jackson Lecture, "The Makings of Obstetrics".

He was a major in the Army Medical Reserve and offered himself for service abroad during the Great War. Because of the nature of his professional services for women, and on account of his years, his offer was not accepted; but he relieved Surgeon-General R. H. Fetherston as honorary gynæcologist at the Melbourne Hospital during his absence abroad on military duty.

His was no mere index learning, for Felix Meyer was a master of languages, an elegant scholar, and a man of genuine learning. His interests were many-sided. He was a lover of books and knowledge, of music and art generally. He was a member of the Faculty of Music of the University of Melbourne and of the Board of the Lady Northcote Permanent Orchestra Trust. He was the tutelary genius of many students of art, music and medicine, a regular attendant at city concerts and at organ recitals by the city organist and at exhibitions of art in the city. He was a connoisseur of painting and sculpture. He wrote verse and contributed essays to local newspapers. He believed in "the bloom and brilliance of words and the beauty of song". He was a ready and fluent public speaker, and in conversation he displayed a superior brilliance. His friendship was esteemed and sought by a number of eminent men, such as Sir John Monash, Sir Bertram Mackennal, Professor Samuel Alexander, O.M., Dr. Walter Rosenhain and Sir John Longstaff. He was one of the oldest members of the Beefsteak, the Yorick and the Wallaby Clubs, and was also a member of the Naval and Military Club. He was a familiar figure at the Melbourne Cricket Ground.

Special mention must be made of his connexion with L. A. Adamson and Wesley College. He edited the "History of Wesley College" in 1919, and in 1932 the biography of the famous headmaster "Adamson of Wesley". He loved his old school, and for many years at the Wesley boat race dinner annually he was entrusted with the toast of "The Crew", which he handled with unfailing felicity. He was President of the Old Wesley Collegians' Association in 1897 and 1898, and each year he donated the Felix Meyer Prize for Science.

Felix Meyer was accomplished in medicine; he was equally accomplished in mind. By practising medicine as a noble art he added to the dignity of our profession and enhanced the esteem in which it is held. He had the dauntless spirit of resolution, and for him the reward for service was the doing of it. He has handed down the best tradition of the medical profession.

On his retirement from practice he wrote the following apostrophe to his brass plate:

> Farewell, good Brassie, thy face hath bravely shone
> Through the long years, in stainless brazenry,
> With lustre still undimmed thy task is done.
> Hath ending now untarnished blazonry;
> Full fifty years thy front hath seemly borne
> Black-lettered legend of my heraldry;
> And none e'er cast on it the look of scorn;
> And none e'er read unethic ribaldry.

In 1904, Dr. Felix Meyer married Mary, second daughter of Professor E. J. Nanson, professor of mathematics of the University of Melbourne, who survives him; they had no family. We extend our sincere sympathy to his widow.

The following resolution was adopted at a meeting of the Victorian Branch of the British Medical Association:

> That council records its deep sorrow at the death of Dr. Felix Meyer and its keen appreciation of his long and distinguished service to the medical

profession. His connexion with the Association has been long and honourable. He joined the Victorian Branch of the British Medical Association in 1882, was a member of council from 1886 to 1908 and Branch president in 1894. Full recognition of his sterling citizenship and his brilliant classical and artistic endowments will be dealt with elsewhere, but council particularly desires to place on record some professional activities with which he has been so ably associated or which have been sponsored by him.

In the main his professional life was devoted to the teaching and practice of gynæcology and obstetrics. He was convenor of the first Medical Students' Society in the State and for thirty years was senior indoor gynæcological surgeon at the Women's Hospital. For six years he occupied the position of lecturer in obstetrics and gynæcology at the University of Melbourne, and later represented the British Medical Association on the Committee of Obstetrical Research.

He established the training of nurses at the Lying-in Hospital in 1881, founded and was editor for five years of *Una*, the first journal for nurses in Victoria. In 1916 he created, at the request of the British Medical Association, the Board of Examiners for the State Midwery Certificate, and was the first chairman of the board.

He was the repository of a fund of knowledge and experience which were always at the disposal of students and his brother practitioners. He was an exemplification of the best traditions of the medical profession, and his death will be keenly felt by the profession and the community.

Council's deepest sympathy is extended to his widow in her loss.

Dr. R. H. Fetherston writes:

Meyer had many friends, but few knew him as well as I did. During the whole period of our active professional years we were closely associated, and we had been friends from our school days. Meyer was senior boy at school when I went to a public school. He should have left school the previous year, but was being held back a year to go up for honours and the exhibition at matriculation. In those days great emulation existed between the public schools to win the matriculation exhibitions. Meyer was one of a brilliant class of students under Professor Irving at Wesley College, which included Alexander, Meyer, Moors and Syme. Professor Irving knew their brilliancy and ability and would not allow them to compete with each other. They all won exhibitions and honours for the school for three or four consecutive years.

Meyer excelled in the classical side, and when at school could read "unseen" Latin. He kept up his classical knowledge throughout life. Everyone thought that he was going to take up work on the literary side of the university and follow a literary career, which seemed to offer him such great possibilities.

At school Meyer was a man in ways and manners, and through life he remained a scholar—he never altered—till shortly before his death taking the greatest interest in his old school and the boys at school, ever foremost to congratulate winners and to cheer up others in defeat.

He went through the medical course at the end of the seventies of last century, graduating with honours in 1880. Amongst his fellow students, though not all in the same year, were Stirling, Springthorpe, Newman, Bage and George Syme, all to gain an honoured position in the profession. In 1881 he was appointed resident surgeon to the Women's Hospital, then the only resident. From then, for nearly forty years, he held some position on the staff of the Women's, and was actively engaged in teaching until he retired at the end of the War.

In 1888 he was elected to one of the new positions on the midwifery side of the hospital. The elections were in those days by the popular vote of subscribers and life governors. Meyer headed the poll, at which M. U. O'Sullivan, Rothwell Adam and Dunbar Hooper were also elected. He took up duty in 1889. It was my privilege to be his first resident surgeon, and we both remained on the staff till he was senior and I was junior indoor surgeon and were both examiners in obstetrics at the university.

Sports: Never an outstanding athlete, I do not remember him taking part in sports after school days. Still, he was in every sense a sport-loving man. From the days as resident, when he kept the betting books for two of his honoraries (and they did bet in those days) he was an ardent follower of racing, of cricket and rowing, a regular attendant at Flemington on race days and often at Caulfield. At the M.C.C. on days of important cricket matches, Meyer, Wilkinson, with two or three others, were always to be found in the back rows in the members' pavilion. Rarely ever absent from senior school matches when his old school, Wesley, was playing. On the river a regular watcher on the bank during training, so much so that whenever a trial over the course was to be done, the school coach, Charles Donald, sent Meyer word of what was to take place, and afterwards came along to hear his criticism and remarks on the work done. Such criticism was given freely and openly, and was given fullest consideration by the coach.

Few knew that Meyer repeatedly volunteered for active service during the last two years of the War, when the scarcity of medical officers was being felt. Like several other seniors of the profession who had had no military service, and had specialized in work quite apart from work required at the War, he felt he was not competent to take up regular war work, but offered several times to go in any position I could find which he could fill, and did not like my telling him that his place was at home looking after the women who were left behind.

In the early days of the Women's Hospital, the staff, led by Tracey, G. H. Fetherston and O'Sullivan, ruled the hospital. Fights and quarrels with the committee were perennial. The committee was elected by the subscribers, and as the medical staff had the support of the subscribers, they were to make or unmake the committee. On one occasion they defeated practically the whole committee, electing their own nominees. Meyer was our first speaker at the meetings of the subscribers to put the case for the staff. He could put our case as well as most lawyers could have done. His speech was a reasoned and impressive oration, at times caustic and cutting, but never rude or pugnacious.

Failing health in recent years (anginal attacks) compelled him to go slow and take things easily; still he retained his scholastic and literary interests, was a fluent and ready speaker as well as an able writer, with full command of words and language. At the time of his death he was chairman of a committee which was writing the history of the medical profession in Victoria. Now that Meyer is gone I wonder if it will ever be completed.

Always foremost in all movements which he thought were in the interests of the profession, perhaps as a teacher and lecturer Meyer was at his best. He liked this work, and took great care in the preparation of his lectures.

Throughout Australia many medical men and women owe a large share of their success in practice to the teaching of Felix Meyer. He will be remembered for years by the members of his classes, at the hospital and at the university.

Dr. A. L. Kenny writes:

A remarkable man of a unique type in the person of Felix Henry Meyer has just completed his career and passed away to his eternal reward. He leaves a delightful memory of a lovable man who loved his fellow men. Generous in his appreciation of the works and actions of his colleagues and friends, he was throughout his life the exemplar of the golden rule of doing to others as he would be done by. Unique in that he was possessed of a wide range of talents and of high ideals which he developed to the utmost. To the inherited traditions and the high culture of his race he added as the result of his own studies and observations and the fullest development of the manifold talents with which Providence had so

singularly endowed him. Dying at the moment when the international New Education Fellowship was concluding its long and most remarkable sessions in Melbourne, he may confidently be held up as a proof that the public school education system of Australia in general and of his own much loved Wesley College in particular, was capable of drawing out and of providing the highest type of citizen, even if measured by the novel and exacting standards suggested by those famous exponents of the New Education Fellowship.

In his loved profession of medicine, which he adorned, his manner to his patients was kindness, tenderness and thoroughness, ignoring the surroundings, whether in the mansion or (as was sometimes necessary in the outdoor midwifery work of the resident surgeon of the Women's Hospital) in the veriest slums of Melbourne. His recreations were as varied as his attainments. Continuous reading made him Bacon's "full man" and, combined with his unceasing classical studies, gave him a graceful and felicitous literary style. Much travel expanded his mind and furnished him with abiding memories of the beautiful things of this world for his moments of reflection and contemplation. In the cathedrals, churches, shrines and antiquities of Italy his breadth of view and freedom from bias allowed him to absorb all that was beautiful, instructive and memorable therein. Music was his "garden of dreams"; he knew every flower in that exquisite garden, and I can imagine no one who could surrender so profoundly to its charm. His mental and emotional equipment enabled him to attune himself to every chord, to every phrase. Unceasing in his attendance at all performances of good music, he came away filled with the purest joy, his mind charged with melody. So also was it with the painter's and sculptor's art; intimate with many of Melbourne's most skilled executants, including his wife, in whose artistic painting he found continuous pleasure, he had a refined taste and could criticize with authority.

All of these attributes made of him a most instructive and entertaining conversationalist, a retentive and well-stored memory investing his speech with a most arresting faculty. Full of the joy of life, he literally corruscated with witty sayings.

Under all conditions a gentleman, he won and held the affection of a large number of friends. And now, paying the great penalty common to all, he has been taken from that life that meant so much to him, leaving a sweet memory to troops of friends, who offer to his widow and to his relatives their deepest sympathy in a grief which they also share.

Emeritus Professor T. G. Tucker, of the University of Melbourne, writes:

I rejoice to be afforded the opportunity of paying some small tribute to the memory of Dr. Felix Meyer. For many years he was my most intimate friend and I was in the best of positions for judging of his mental qualities and attainments. I will leave it to others to speak of his social gifts and personal attractiveness. What I am concerned with is his love and, at the same time, his critical estimation of literature, and particularly of his unaffected fondness for the classical tongues. This he proved to me in numberless conversations.

Though I was too late an arrival to know him in his early youth, I have seen a few accidentally preserved exercises of his school days, when he was under the stimulating influence of Professor Irving, and I remember him saying to him: "My dear Felix, if you had not declined upon medicine you would have made a fine classical scholar." He would often tell me of his boyish enthusiasm for his "bit of Greek and Latin", and it was surprising to hear how readily, after years of inevitable rustiness, he could quote favourite lines from Horace or Virgil. I know I often envied him his gift of verbal memory, whether displayed in such quotations or in those from English poetry. But he did not merely enjoy; he could also judge. One proof of this fact was his distinct preference for the superior substance and artistry of Greek, though in that tongue, which is more difficult to retain, he became somewhat less at home. Many a time has he said to me: "T.G. (for that is what he was wont to call me), the Greeks did not leave us much to say, did they?"

He never lost interest in discussing questions concerning the classical writers, their range of thought and their literary creations. For this reason he was prompt to join the Classical Association, and became one of its council. There was no artificial attitude in this connexion, and I greatly grieve that one more loyal advocate of the good old culture has been lost from our midst.

Vale, Felix, and, if there be an Elysium, may you there hold converse with the great ones of Periclean Athens and Augustan Rome, as well as with the Shakespeare, Shelley and Keats whom you loved so well!

Professor R. Marshall Allan writes:

My association with the late Dr. Felix Meyer began twelve years ago, when I came to Victoria as Director of Obstetrical Research. As he was a very active member of the committee supervising this work, one soon appreciated the value of his advice, encouragement and cooperation. He had the power of eliciting in an unusual degree the affection as well as the respect of those who were privileged with his friendship.

The foundation and gradual development of the Chair of Obstetrics found in him a staunch supporter, and it enabled me to note the keen, sympathetic interest which he always displayed towards the younger generations of students and nurses. To them on many occasions he gave sage advice based on a long clinical experience.

Undoubtedly his greatest assets were his command of the English language, his classical training and his ability to express himself adequately both in speech and writing. When he rose to speak at any meeting one was prepared for an intellectual treat. In these days of specialism he illustrated the value of a broad general education and of interest in affairs outside the usual professional activities. The University of Melbourne has lost one of her most illustrious medical graduates—one who served his Alma Mater faithfully in many directions.

The many-sided aspects of his busy life have been dealt with by others, and just now one prefers to remember with gratitude his close friendship and the frequent discussions not only of the old masters of the obstetric art, but of the advances yet to come. It is appropriate, therefore, to close with what one of his favourites, Smellie, had to say regarding the essentials of the good accoucheur: "Over and above the advantages of education he ought to be endued with a natural sagacity, resolution and prudence together with that humanity which adorns the owner and never fails of being agreeable to the distressed patient."

RUDOLPH HERBERT SCHLINK.

We regret to announce the death of Dr. Rudolph Herbert Schlink, which occurred on September 24, 1937, at Albury, New South Wales.

HARRY SWIFT.

We regret to announce the death of Dr. Harry Swift, which occurred on September 29, 1937, at Adelaide, South Australia.

Corrigendum.

In the report of the meeting of the Victorian Branch of the British Medical Association held on July 7, 1937, and published on September 18, the word "femur" appeared twice in the last paragraph on page 495. We have been informed by Dr. J. B. Colquhoun that the condition referred to was osteomyelitis of the tibia.

Proceedings of the Australian Medical Boards.

TASMANIA.

The undermentioned have been registered, pursuant to the provisions of the *Medical Act*, 1918, of Tasmania, as duly qualified medical practitioners:

Boxall, John Stephen, M.B., B.S., 1936 (Univ. Sydney), Zeehan.

Cust, Norman Albert Austin, M.B., B.S., 1933 (Univ. Melbourne), Longford.

Books Received.

REPORTS ON CHRONIC RHEUMATIC DISEASES, BEING THE ANNUAL REPORT OF THE BRITISH COMMITTEE ON CHRONIC RHEUMATIC DISEASES APPOINTED BY THE ROYAL COLLEGE OF PHYSICIANS. Number III, edited by C. W. Buckley, M.D., F.R.C.P.; 1937. London: H. K. Lewis and Company Limited. Royal 8vo, pp. 142. Price: 10s. 6d. net.

THE PRINCIPLES AND PRACTICE OF CLINICAL PSYCHIATRY, by M. Braude, M.D.; 1937. Philadelphia: P. Blakiston's Son and Company, Incorporated. Large crown 8vo, pp. 392. Price: $4.00 net.

Diary for the Month.

Oct. 12.—New South Wales Branch, B.M.A.: Organization and Science Committee.
Oct. 12.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
Oct. 14.—Tasmanian Branch, B.M.A.: Branch.
Oct. 19.—New South Wales Branch, B.M.A.: Ethics Committee.
Oct. 20.—Western Australian Branch, B.M.A.: Branch.
Oct. 21.—New South Wales Branch, B.M.A.: Clinical Meeting.
Oct. 21.—Tasmanian Branch, B.M.A.: Council.
Oct. 22.—Queensland Branch, B.M.A.: Council.
Oct. 26.—New South Wales Branch, B.M.A.: Medical Politics Committee.
Oct. 27.—Victorian Branch, B.M.A.: Council.
Oct. 28.—New South Wales Branch, B.M.A.: Branch.
Oct. 28.—South Australian Branch, B.M.A.: Branch.
Nov. 2.—New South Wales Branch, B.M.A.: Organization and Science Committee.
Nov. 2.—Tasmanian Branch, B.M.A.: Council.
Nov. 3.—Western Australian Branch, B.M.A.: Council.
Nov. 4.—South Australian Branch, B.M.A.: Council.
Nov. 5.—Queensland Branch, B.M.A.: Branch.
Nov. 9.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
Nov. 9.—Tasmanian Branch, B.M.A.: Branch.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser," pages xvi to xviii.

Austin Hospital for Cancer and Chronic Diseases, Heidelberg, Victoria: Honorary Anæsthetist.

Dumbleyung Hospital Board, Dumbleyung, Western Australia: Medical Officer.

Fremantle Hospital, Fremantle, Western Australia: Resident Medical Officer.

Royal Melbourne Hospital, Melbourne, Victoria: Medical Officers.

Sydney Hospital, Sydney, New South Wales: Senior Pathologist, Junior Resident Pathologist, Honorary Relieving Assistant Aural Surgeon.

Tambo Hospitals Board, Tambo, Queensland: Medical Superintendent.

The Toowoomba Hospitals Board, Toowoomba, Queensland: Senior Resident Medical Officer.

Medical Appointments: Important Notice.

Medical practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCHES.	APPOINTMENTS.
New South Wales: Honorary Secretary, 135 Macquarie Street, Sydney.	Australian Natives' Association. Ashfield and District United Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Leichhardt and Petersham United Friendly Societies' Dispensary. Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney. North Sydney Friendly Societies' Dispensary Limited. People's Prudential Assurance Company Limited. Phœnix Mutual Provident Society.
Victorian: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association, Proprietary, Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
Queensland: Honorary Secretary, B.M.A. House, 225, Wickham Terrace, Brisbane, B.17	Brisbane Associate Friendly Societies' Medical Institute. Proserpine District Hospital. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.
South Australian: Secretary, 178 North Terrace, Adelaide.	All Lodge appointments in South Australia. All contract Practice Appointments in South Australia.
Western Australian: Honorary Secretary, 205, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.

Editorial Notices.

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